



RESEARCH ARTICLE

CEO family harmony and firm product innovation performance: A moderated mediation model of the CEO–TMT interface

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Abstract

In this study, we integrate work–family enrichment and upper echelons theories to examine how and when chief executive officers' (CEOs) family experiences impact their firms' performance. We argue that CEO family harmony has an indirect effect on their firms' product innovation performance through top management team (TMT) behavioral integration. Additionally, we propose that CEO founder status strengthens the effects of CEO family harmony. Our analysis of data from 101 CEOs and 458 TMT members in various high-tech industries in China indicates that the positive relationship between CEO family harmony and firms' product innovation performance is mediated by TMT behavioral integration. Moreover, CEO founder status increases the direct effect of CEO family harmony on TMT behavioral integration and its indirect effect on firms' product innovation performance through TMT behavioral integration. These findings have theoretical and practical implications and provide new research directions in the study of CEO family–work spillover and CEO–TMT interfaces.

Keywords: CEO family harmony; firm product innovation performance; TMT behavioral integration; managerial discretion; CEO–TMT interface; family–work integration

Introduction

Upper echelons theory suggests that chief executive officers' (CEOs) experiences, values, and personalities influence their strategic decisions and behaviors (Hambrick & Mason, 1984; Kaplan, Klebanov, & Sorensen, 2012) and, thus, their firms' performance (Araujo-Cabrera, Suarez-Acosta, & Aguiar-Quintana, 2017; Berson, Oreg, & Dvir, 2008) because CEOs are the chief decision makers (Hambrick, 2007). Although the upper echelons literature has established the impact of CEOs' values and personalities (e.g., Ling, Zhao, & Baron, 2007; Zhu & Chen, 2015), few studies have investigated the impact of CEOs' non-work experiences on these outcomes.

Recently, upper echelons scholars have shed light on the role of CEO family experiences by finding that CEO family–work conflict is negatively associated with firm performance through the mediating effect of CEO decision-making comprehensiveness (Reina, Peterson, & Zhang, 2017). These findings are based on the conflict perspective on family–work spillover, which suggests that family and work are in conflict (Greenhaus & Beutell, 1985). The conflict perspective on family business and non-family business has long captured the attention of family–work scholars (Kwan, Lau, & Au, 2012),

and Reina *et al.* (2017) made the first attempt to integrate upper echelons and conflict perspectives by focusing on CEOs' family–work interfaces.

To achieve a more balanced approach recognizing the beneficial impact of combining family and work roles, some scholars have used work–family enrichment theory to illustrate that family and work can be mutually supportive (Greenhaus & Powell, 2006). Thus, a growing number of studies over the past decade have examined how and when family experiences induce positive job behaviors and attitudes. However, such studies focus on individuals (Lapierre *et al.*, 2018). To our knowledge, work–family enrichment theory has not been applied to explain the positive effects of CEO family experiences on firm consequences. Applying work–family enrichment theory is essential to extending family–work spillover research to the strategic level and to encouraging renewed considerations of outcomes that studies of CEO family–work conflict cannot address. Prior studies have acknowledged that effectively managing family–work balance at a strategic level can provide firms with competitive advantages (Konrad & Mangel, 2000). Hence, it is important and timely to combine micro (family–work enrichment) and macro (upper echelons) perspectives to explore how and when CEOs' positive family experiences become a source of competitive advantage to facilitate their firms' performance.

We adopt work–family enrichment theory in arguing that family harmony is a valuable source of family–work enrichment. We illustrate how CEOs' positive family life can influence their top management team (TMT) and their firm's outcomes. Family harmony, which involves closeness, congeniality, and mutuality, is the most valuable feature of a family relationship (Kavikondala *et al.*, 2016). To develop harmonious family relationships, family members strive to perform well in communication, conflict resolution, forbearance, identity, and quality time in their daily interactions (Kavikondala *et al.*, 2016). Work–family enrichment theory identifies resource transfer as the mechanism through which CEOs' experiences in their family setting can enrich their work life (Greenhaus & Powell, 2006). Therefore, we propose that CEOs' experiences of living in a harmonious family, observing the maintenance of harmonious relationships, and learning to develop close relationships with others are beneficial for their TMTs and firms.

Upper echelons theory focuses on the interface between a CEO and TMT members to explain how the CEO's experiences relate to their firm's outcomes through the TMT's task and social dynamics, and TMT behavioral integration in particular has captured a great deal of attention (Simsek, Heavey, & Fox, 2018). A recent review acknowledged the important role of TMT behavioral integration in intersections of CEOs and TMTs, stating: "The single most common study 'template' is how the attributes of CEOs influence TMT activities – in particular the level of behavioral integration or teamness" (Simsek *et al.*, 2018, p. 293). In this study, we propose that TMT behavioral integration, which refers to "the degree to which the group engages in mutual and collaborative interaction" (Hambrick, 1994, p. 188), helps to explain why the CEO family harmony has a positive influence on their firm's outcomes. More specifically, we argue that CEOs with a higher degree of family harmony are more inclined to establish and maintain a mutually supportive and collaborative atmosphere in TMTs where differences are embraced, sincere and open-minded discussion is promoted, and mutually satisfying solutions are encouraged (Chen, Leung, Li, & Ou, 2015). Innovation performance is often enhanced in the integration of diverse views and exploration of solutions for maximizing mutual benefit (Chen, Wang, Nevo, Benitez-Amado, & Kou, 2015; Du, Chan, Birnbaum, & Lin, 2022). In other words, TMTs members' endeavors, specifically their willingness to share information, collaborate cross-functionally, and integrate knowledge, are the mechanism by which CEO family harmony affects firm product innovation performance (Kavikondala *et al.*, 2016).

Upper echelons theory also argues that CEOs' effects on firm outcomes do not occur in a vacuum, and therefore, research should identify the moderators that strengthen or alleviate the effects of CEOs (Hambrick & Finkelstein, 1987). We are therefore interested in identifying the conditions under which the effect of CEO family harmony is stronger or weaker. According to upper echelons theory, managerial discretion, which refers to the latitude of action available to leaders (Hambrick & Finkelstein, 1987), is an important moderator that strengthens the effects of CEO characteristics (Hambrick, 2007). CEOs' founder status has been theorized as a key indicator of their managerial

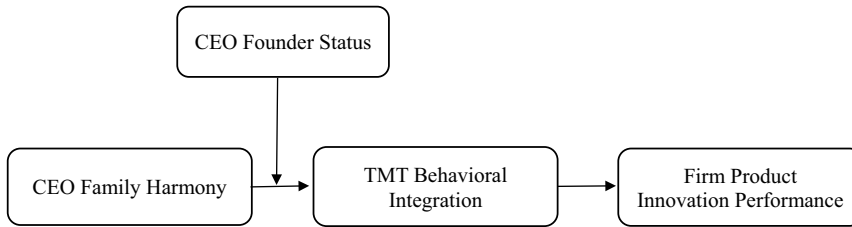


Figure 1. Proposed research model.

discretion (Wu, Kwan, Yim, Chiu, & He, 2015). Specifically, founder CEOs enjoy more freedom to exhibit affect and behaviors that reflect their characteristics than non-founder CEOs, who are more likely to be constrained by the firm's routines and history. Accordingly, we propose that CEO founder status amplifies the direct effect of CEO family harmony on TMT behavioral integration and its indirect effect on the firm product innovation performance via TMT behavioral integration.

Our research makes three contributions to the upper echelons and family–work spillover literature. First, we apply work–family enrichment theory to introduce the psychological concept of family harmony to management research and examine its effects on TMT and firm outcomes. We conceptualize family harmony at the CEO level, and our study is the first to find that CEO family harmony is a source of competitive advantage that benefits TMTs' social dynamics and firm innovation. Our findings potentially show that it is important not only to understand the influence of the CEO's positive family experiences on their TMT and firm but also to apply work–family enrichment theory to examine TMT and firm outcome variables that the conflict perspective cannot address. Second, our study regards TMT behavioral integration as the core mediator of the relationship between CEO family harmony and the firm product innovation performance. By specifying and expanding work–family enrichment theory to the domain of strategic sociopolitical behaviors, our study is the first to examine the effect of the CEO's positive family characteristics on their firm's outcomes from the perspective of the CEO–TMT interface. Thus, our study advances relational interface theory on the impact of the CEO's family characteristics on their firm's outcomes. Finally, examining the moderating role of CEO founder status can help determine the conditions under which the effects of CEO family harmony are leveraged and can demonstrate that the positive impact of CEOs' family experiences should not be taken for granted. Our results enrich the upper echelons and work–family interface literature by indicating that CEO founder status and managerial discretion are important moderators, and we thus provide a greater understanding of the role of the CEO's family experiences in CEO–TMT interactions and their firm's performance. Figure 1 presents our proposed model.

Hypothesis development

CEO family harmony, TMT behavioral integration, and firm product innovation performance

Upper echelons theory provides a clear picture of how CEOs' characteristics impact their TMTs' processes and their firms' performance, and work–family enrichment theory explains why and how CEO family harmony, which involves CEOs' closeness, congeniality, and mutuality with their family members (Kavikondala et al., 2016), matters. Upper echelons theory stresses the importance of executives' characteristics (e.g., their experiences, values, and personalities), which are reflected in their organizational outcomes (Hambrick, 2007; Hambrick & Mason, 1984). Over the last decade, a number of scholars have demonstrated the implications of CEOs' personal or family experiences, including early life disaster experiences (Bernile, Bhagwat, & Rau, 2017), childhood experiences with social class (Kish-Gephart & Campbell, 2015), male CEOs' children (Dahl, Dezsó, & Ross, 2012), and family–work conflict (Reina et al., 2017), for their firms' strategies and outcomes. Extending this line

of research, we integrate work–family enrichment theory with upper echelons theory to illustrate how CEOs’ family harmony influences their firms’ outcomes.

According to work–family enrichment theory (Greenhaus & Powell, 2006), the positive spillover between family and work can be bidirectional. That is, not only do work experiences enrich family life but family experiences also enrich work life. Work–family enrichment theory identifies multiple ways to achieve this enrichment (Greenhaus & Powell, 2006). One way is through skills and perspectives learned with the family or at work. “Skills” refers to a broad set of knowledge and wisdom, while “perspectives” refers to ways of coping with situations, including the respect for and appreciation of individual differences (Greenhaus & Powell, 2006). Another way is through the positive affect generated in one domain and transferred to another domain. Studies based on work–family enrichment theory have indicated that high-quality dyadic relationships (e.g., leader–follower, mentor–protégé) provide an effective platform for organization members to understand each other and develop personal skills and positive affect that can be applied across domains (Hu, Wang, Kwan, & Yi, 2021; Liao, Yang, Wang, & Kwan, 2016; Mao, Kwan, Chiu, & Zhang, 2016).

We therefore suggest that the CEO’s family life is an essential platform for their growth and social learning (Preston *et al.*, 2016). Harmonious family relationships enable role accumulation to produce positive outcomes (Greenhaus & Powell, 2006; Stevens, Minnotte, Mannon, & Kiger, 2007). This study emphasizes the effect of CEOs’ affect, values, and learning obtained from their families on their TMT behavioral integration.

Behavioral integration is an all-encompassing metaconstruct that comprises one social dimension (collaborative behavior) and two task dimensions (quantity and quality of information exchange and joint decision-making) (Hambrick, 1994). In other words, behavioral integration reflects “teamness,” which is marked by a high level of team collaborative behavior, a high quantity and quality of information exchange, and joint decision-making (Simsek, Veiga, Lubatkin, & Dino, 2005). TMT behavioral integration refers to the extent to which TMT members engage in information exchange, are psychologically and emotionally attached to each other, and make strategic decisions together (Hambrick, 1994). CEOs’ and TMT members’ characteristics are often reflected by various aspects of the team’s process (Simsek *et al.*, 2005). Hence, Simsek *et al.* stated, “Truly integrated teams engage in several interrelated processes, reflecting an inherent complexity and dynamism of strategic decision making that cannot be adequately captured by any single process dimension” (Simsek *et al.*, 2005, p. 70). That is, TMT behavioral integration fully captures the important aspects of TMTs’ interrelated processes and can prevent poor decision making that any single process (e.g., team cohesion) cannot capture (Simsek *et al.*, 2005). As CEOs are responsible for encouraging interactions between their TMT members – i.e. they assess, guide, motivate, and coach these team members – the CEOs are the key actors in TMT processes (Simsek *et al.*, 2005). In addition, scholars have regarded TMT behavioral integration as a relational mechanism specific to the CEO–TMT interface to explain how CEO effects influence strategic consequences (Simsek *et al.*, 2018).

In a harmonious family, members strive to communicate effectively, manage conflict constructively, be patient with each other, have a strong sense of identity and belongingness, and spend quality time with one another (Kavikondala *et al.*, 2016). CEOs living in such an environment tend to develop positive affect (e.g., happiness) toward interpersonal relationships and collective values (e.g., interdependence) toward interactions with others. Moreover, such CEOs learn perspectives and skills such as understanding others’ emotions, needs, and differences, communicating with others effectively, and cooperating with others smoothly to create harmonious relationships by observing other family members (Greenhaus & Powell, 2006).

This study proposes that CEOs apply their positive affect, family values, and the knowledge obtained from their families to their work situations. Specifically, we suggest that CEOs’ experiences and learning from family harmony facilitate TMT behavioral integration. First, CEOs living in harmonious families can bring their positive affect from family to work (Greenhaus & Powell, 2006). As positive affect is contagious among team members (Barsade, 2002; Liu, Härtel, & Sun, 2014), it is likely that positive affect is transferred from CEOs to their TMT members. Such positive affect expands one’s

level of energy and facilitates an outward focus of attention to stimulate positive interactions, thereby fostering benevolence and helping behavior (Greenhaus & Powell, 2006). TMT members thus pay attention to and collaborate with each other. Second, CEOs' values guide their decisions regarding what they should do, and learning provides them with the ability to do those things (Bandura, 1986). CEOs with harmonious family relationships are inclined to have the collective value that individuals are interdependent and mutually benefit from one another (Chen et al., 2015). At work, these CEOs are keen to facilitate employees' sharing, cooperation, and participation in group decisions (Simsek et al., 2005). Third, as the CEO is the key figure in interactions between TMT members, CEOs' values and behaviors provide cues about their teams' behavioral norms (Simsek et al., 2005). CEOs with a high degree of family harmony respect differences and diversity, and they actively encourage sincere and open discussion and direct employees to resolve conflicts (Chen et al., 2015), which encourages TMT members to adopt similar attitudes and behaviors in their interactions, thus fostering mutual respect. Consequently, TMT members are motivated to share their thoughts and to interact with each other cooperatively. According to the above discussion, we propose the following hypothesis:

Hypothesis 1: CEO family harmony is positively related to TMT behavioral integration.

The firm product innovation performance, defined as "the extent to which the firm has achieved its profitability, sales volume and revenue objectives for newly introduced products and/or services" (Atuahene-Gima, Slater, & Olson, 2005, p. 3), is a critical indicator of the return on product innovation. Continuous product innovation is of vital importance because it endows firms with the competence needed to survive, compete, and grow in intensely competitive environments (Bantel & Jackson, 1989; Chen et al., 2015; Danneels, 2002). This is particularly true in high-technology industries where market conditions are dynamic and trends change quickly (Liu, Chen, & Tao, 2015).

Product innovation performance is extremely important, and the process of product innovation is fairly complex (Parthasarthy & Hammond, 2002; Zhang & Hoening, 2009), depending greatly on numerous individuals' and teams' efforts (Du et al., 2022). As indicated by De Luca and Atuahene-Gima (2007), product innovation involves the successful management of complex processes associated with market knowledge, cross-functional collaboration, and knowledge integration mechanisms. This shows the importance of uniting team members and integrating their intelligence and wisdom. We therefore propose that high TMT behavioral integration, whereby team members extensively collaborate, exchange information, and make joint decisions, has a positive effect on firm product innovation performance.

There are several reasons why TMT behavioral integration facilitates firms' product innovation performance. First, the sales or profits of new products or services depend on whether they meet the needs of customers and have advantages over their competitors (Atuahene-Gima, 1995; Parthasarthy & Hammond, 2002; Wahyono, 2019; Zhang & Hoening, 2009). Such market knowledge is derived from various sources, including suppliers, customers, competitors, and peers (De Luca & Atuahene-Gima, 2007; Zhang & Hoening, 2009). The engagement of TMT members in information exchange enriches their sources and depth of market information (Leenders & Dolfmsa, 2016), which can be transformed into knowledge and be processed and applied to firm innovation (Hirunyawipada, Beyerlein, & Blankson, 2010). Additionally, frequent information exchange minimizes product development time, thus accelerating product innovation processes (Parthasarthy & Hammond, 2002). Moreover, the process of exchanging information promotes the exploitation and recognition of opportunities, thus enhancing the likelihood that creative ideas will be produced and that successful innovative products will be created (Liu et al., 2015).

Second, high product innovation performance requires the synthetization of multiple individuals' and teams' information, skills, and wisdom (Liu et al., 2015). Collaboration between research and development teams and other functional units greatly facilitates the development of new products or services and improves productivity and sales (Annique Un, Cuervo-Cazurra, & Asakawa, 2010;

De Luca & Atuahene-Gima, 2007; Leenders & Dolfsma, 2016). TMT members are responsible for various functions in an organization. Each TMT member has their own knowledge and wisdom. TMTs with high behavioral integration make collaboration, coordination, and mutual support between different units possible. Thus, an organization can take advantage of these collaborations to generate creative ideas and to implement and promote new products.

Third, firm product innovation performance is likely to be promoted through TMTs' shared decision making (Hambrick, 2007). Joint decision making integrates information from different resources and embraces various perspectives and alternatives (Zhu, Chen, Asante, Zhu, & Xu, 2022). This improves the effectiveness of strategic decisions and reduces the risks and uncertainty of new products (Liu et al., 2015), thus improving profitability and sales volume. Moreover, the process of joint decision making enhances collective interests and willingness to invest in the new product (Liu et al., 2015). TMTs that are willing to share information, collaborate, and make joint decisions are likely to collectively look for solutions and contribute to the whole process of product innovation (De Luca & Atuahene-Gima, 2007), thus boosting the firm product innovation performance.

Previous studies have provided empirical support for our argument that TMT members with high levels of behavioral integration tend to make high-quality strategic decisions (Carmeli & Schaubroeck, 2006), finish collective tasks effectively (Carmeli, Schaubroeck, & Tishler, 2011), and promote high corporate entrepreneurship (Chen, Simsek, Liao, & Kwan, 2022) and innovation performance (Liu et al., 2015; Zhu et al., 2022), and that team behavioral integration is positively associated with team performance in R&D teams (Zhang & Kwan, 2019). We therefore propose the following hypothesis:

Hypothesis 2: TMT behavioral integration is positively related to the firm product innovation performance.

Mediating role of TMT behavioral integration

We further propose that TMT behavioral integration is an important mediating mechanism linking CEOs' family harmony and their firms' product innovation performance. Recently, scholars of upper echelons theory have called for greater attention to the mediating mechanisms by which CEO characteristics influence followers throughout the firm (Simsek et al., 2018). A direct way to understand these mechanisms is to investigate the CEO–TMT interface because such interactions provide opportunities for the CEO to shape TMT members' perceptions. Researchers have concluded that “interfaces represent a key explanatory mechanism through which influence is conveyed and perceptions and impressions are formed and by which the attributes, aspirations, and activities of strategic leaders permeate the wider organization and beyond” (Simsek et al., 2018, p. 300).

As discussed above, the CEO family harmony is associated with TMT behavioral integration, which facilitates their firm product innovation performance. It is thus appropriate to propose that the CEO family harmony has an indirect effect on their firm product innovation performance via TMT behavioral integration. Studies have indicated that CEOs assess, guide, motivate, and coach TMT members (Simsek et al., 2005) and influence those who are socially close to them (Carmeli et al., 2011; Ling, Simsek, Lubatkin, & Veiga, 2008). Hence, CEO characteristics are integrated into TMTs through the CEO–TMT interface (Simsek et al., 2018). Scholars have also proposed that firm outcomes result from the collective cognitions, capabilities, and decisions of the entire TMT (Hambrick, 2007). TMT members are from various functional areas, and together, they consider the same problem from a company-wide perspective. Hence, TMT behavioral integration, which fully captures various inter-related processes, is essential for an organization to prevent poor decision making and ensure product innovation.

Studies integrating CEO characteristics, TMTs' strategic sociopolitical behaviors, and firm outcomes have shown that TMT behavioral integration mediates the association between CEO characteristics and firm outcomes (Simsek et al., 2018). A review identified seven studies on the mediating role

of TMT behavioral integration in the relationships between CEOs' attributes/leadership behaviors and firms' strategies/performance (Simsek et al., 2018). Similarly, recent research has identified the mediating effect of TMT behavioral integration on the relationship between CEOs' self-monitoring and corporate entrepreneurship (Chen et al., 2022). Accordingly, we argue that TMT behavioral integration is the mechanism that accounts for the relationship between the CEO family harmony and their firm product innovation performance. In other words, as a key variable that reflects the CEO–TMT interface, TMT behavioral integration links CEO family harmony to firm outcomes. We therefore propose the following hypothesis:

Hypothesis 3: TMT behavioral integration mediates the relationship between the CEO family harmony and their firm product innovation performance.

Moderating role of CEO founder status

Although we expect that CEO family harmony affects TMT behavioral integration, we argue that this impact may be stronger or weaker depending on the degree of managerial discretion. Bridging the arguments by population ecologists that organizations are inertial and by strategic choice theorists that organizations can change their fates, upper echelons theory asserts that CEOs' effects on organizational outcomes depend on the level of managerial discretion – that is, managers' latitude to take action (Hambrick & Finkelstein, 1987). CEOs are responsible for substantive (e.g., resource allocation, product market selection) and symbolic domains (language, demeanor). It is likely that CEOs vary substantially in the different domains in which they have latitude. CEOs may vary in how much discretion they hold in each domain at a given time, ranging from very little to a great deal. CEOs may also have more discretion in some domains or periods than in others.

Managerial discretion is usually determined by context. More specifically, managerial discretion exists when constraints are absent and when multiple alternatives are available (Hambrick, 2007). If the degree of managerial discretion is high, the CEO's characteristics will be reflected in their TMT's and the firm's strategies and performance (Hambrick & Finkelstein, 1987). Conversely, if their level of managerial discretion is low, the CEO's characteristics will matter less.

There is an established body of research on the firm- and country-level conditions associated with managerial discretion (Crossland & Hambrick, 2011; Li & Tang, 2010). Regarding firm-level conditions, studies have indicated that firm age and size, board chair–CEO duality, state ownership, and political appointment of CEOs are important indicators of CEO discretion (Li & Tang, 2010). Regarding country-level conditions, research has shown that three informal national institutions (i.e., individualism, tolerance of uncertainty, cultural looseness) and three formal national institutions (i.e., dispersed firm ownership, a common-law legal origin, employer flexibility) in a given country shape CEO discretion (Crossland & Hambrick, 2011).

However, the conditions that affect CEOs' attributes have been less explored, although upper echelons scholars have long suggested that individual attributes are an important component of managerial discretion (Hambrick & Finkelstein, 1987). Motivated by these insights, this study examines whether CEO founder status strengthens the main effect of CEO family harmony on TMT behavioral integration and its indirect effect on the firm product innovation performance.

Past research has used CEO founder status as a proxy for managerial discretion (Wu et al., 2015). This proxy application is based on the notion of organizational inertia, which decreases CEOs' discretionary selection because internal inertial forces strongly influence organizational vision and direction (Li & Tang, 2010). Founder CEOs have more managerial discretion in planning, decision-making, and implementing the firm's strategies than non-founder CEOs, who are more likely to be constrained, including in their exploratory search behavior, by the firm's established routines and history (Wu et al., 2015). We propose that founder CEOs who have a harmonious family life and have thus obtained related skills and perspectives enjoy more freedom to encourage their employees to collaborate than non-founder CEOs. As key figures who established their organization, founder CEOs

can decide whether to exhibit collaborative values and behaviors. However, non-founder CEOs are constrained in such decisions, especially if exhibiting collaborative behavior is inconsistent with their firm's history and current organizational routines. Non-founder CEOs are thus less comfortable about exhibiting behavior consistent with their family experiences. Therefore, we argue that founder CEOs have more latitude in influencing TMT behavioral integration than do non-founder CEOs. Based on the above discussion, we propose the following hypothesis:

Hypothesis 4: CEO founder status moderates the relationship between CEO family harmony and TMT behavioral integration, such that the relationship is stronger for founder CEOs than for non-founder CEOs.

The above discussion provides an integrated framework in which TMT behavioral integration mediates the relationship between the CEO family harmony and their firm product innovation performance. Furthermore, CEO founder status strengthens the effect of CEO family harmony on TMT behavioral integration. As we argue that CEO family harmony is positively related to TMT behavioral integration and, subsequently, to the firm product innovation performance, it is reasonable to suggest that CEO founder status also moderates the impact of the mediating mechanism of TMT behavioral integration in the relationship between the CEO family harmony and their firm product innovation performance, implying a moderated mediation model (Edwards & Lambert, 2007). In other words, the indirect effect of the CEO family harmony on their firm product innovation performance via TMT behavioral integration is stronger when the CEO is the founder than when the CEO is not the founder. We therefore propose the following hypothesis:

Hypothesis 5: CEO founder status moderates the indirect effect of the CEO family harmony on their firm product innovation performance through TMT behavioral integration, such that the indirect effect is stronger for founder CEOs than for non-founder CEOs.

Method

Data and sample

Two waves of survey data were collected from CEOs and TMT members of organizations in a science park located in Northwestern China. This science park, owned by the local government, had 620 organizations in high-technology industries. After we explained the objectives of our study, the science park provided us with the contact information of these 620 organizations. One of the authors contacted the CEOs of 620 organizations by phone and by email. Finally, 189 CEOs agreed to participate in the survey, giving a response rate of 30.5%. At Time 1, the CEOs provided information about their demographic variables (e.g., gender and education level), founder status (yes or no), family harmony, and firm size. Two weeks later, at Time 2, we administered the survey to TMT members to rate their TMT behavioral integration, their firm product innovation performance, and their demographic variables (e.g., gender and education level).

In determining our data collection time interval, we reviewed the literature on TMT behavioral integration, and found that past research revealed a wide disparity in time intervals for data collection associated with TMT behavioral integration and its predictors, ranging from no time interval (Araujo-Cabrera *et al.*, 2017; Carmeli *et al.*, 2011; Ling *et al.*, 2008; Simsek *et al.*, 2005) to two weeks (Chen *et al.*, 2022). We adopted a relatively long interval (two weeks) to attenuate concerns regarding common method variance and to allow the TMT respondents to observe and assess their CEOs' behavior, and consequently, take action.

In designing our data collection time points, we originally planned to ask the TMT members to rate the TMT behavioral integration and firms' product innovation performance at two time points to alleviate concerns regarding common method variance. However, conducting survey research on

CEOs and TMTs is extremely difficult because “it requires very intrusive access to large numbers of executives and TMTs, who are notoriously unwilling to submit themselves to scholarly poking and probing” (Hambrick, 2007, p. 337). Despite our best efforts to persuade our potential TMT respondents to rate the TMT behavioral integration and firms’ product innovation performance at two time points when we notified the TMT members that they would receive two surveys in the near future, some TMT members expressed their unwillingness to respond twice. Such unwillingness can create high nonresponse and attrition rates. To avoid a low response rate, we allowed the TMT respondents to rate the TMT behavioral integration and firms’ product innovation performance at the same time.

After deleting the responses with missing data and those that were not filled in carefully (e.g., all items were rated with the same score), we obtained 125 and 569 valid responses from the CEOs and the TMT members, respectively. After grouping at least three TMT members from each organization with CEOs who were married or who were single but living with their family members (Kwan, Mao, & Zhang, 2010), 101 sets of responses were retained, including 101 responses from CEOs and 458 responses from TMT members.

Of the 101 CEOs, 75% were men. The CEOs’ average age was 42.5 years (standard deviation [SD] = 8.1), and their average years of marriage was 15.5 (SD = 8.7). The majority of the CEOs (77.2%) held a bachelor’s degree or above, and the majority (91.1%) had at least one child. Of the TMT members, 81.9% were men, and their average age was 42.6 (SD = 8.1). They had been married for an average of 15.6 years (SD = 8.6). The majority of these TMT members (83.0%) held a bachelor’s degree or above, and the majority (73.5%) had at least one child.

Measures

The measures of the key variables were originally developed in English. However, Chinese measures for CEO founder status and TMT behavioral integration were available, as they had been applied in Chinese settings in previous studies. Following the back-translation procedure recommended by Brislin (1980), one of the authors translated the measures of CEO family harmony and firm product innovation performance from English to Chinese and then asked two management doctoral students to back-translate the Chinese version into English. CEO family harmony, TMT behavioral integration, and firm product innovation performance were assessed on a 5-point Likert-type scale (1 = ‘strongly disagree’–5 = ‘strongly agree’). CEO founder status was rated as yes/no.

CEO family harmony

We asked the CEOs to assess the level of their family harmony using the 5-item scale developed by Kavikondala et al. (2016). Two sample items are ‘My family’s day-to-day interactions are peaceful’ and ‘Family members accommodate each other’. Cronbach’s α for this measure was .94.

CEO founder status

Consistent with previous research (Wu et al., 2015), CEO founder status was constructed as a dichotomous variable (0 = ‘CEO is not the founder of this firm’; 1 = ‘CEO is the founder of this firm’).

TMT behavioral integration

The TMT members assessed their team’s behavioral integration using the 9-item scale developed by Simsek et al. (2005). The Chinese version was translated and applied by Zhang and Kwan (2019) and Chen et al. (2022). Sample items are “Team members are willing to help each other complete jobs and meet deadlines (collaborative behavior),” “Team members provide high-quality solutions when making important decisions regarding the firm’s future (information exchange),” and “Team members usually let each other know when their actions affect another team member’s work (joint decision-making).” The Cronbach’s α values for the three dimensions were .84, .82, and .84, respectively, and .93 for TMT behavioral integration. The mean of R_{wg} was .95, the intraclass correlation coefficient

(1) was .47, and the intraclass correlation coefficient (2) was .80. All the scores were higher than the commonly accepted cutoffs. Therefore, the executive members' ratings were averaged to calculate firm-level TMT behavioral integration.

Firm product innovation performance

We asked the TMT members to assess the level of their firm product innovation performance using De Luca and Atuahene-Gima's (2007) 5-item scale. Sample items are "Our product development has achieved market share relative to our firm's stated objectives" and "Our product development has achieved sales relative to stated objectives." Cronbach's α for this measure was .80. The mean of R_{wg} was .99, the intraclass correlation coefficient (1) was .86, and the intraclass correlation coefficient (2) was .97. All the scores were higher than the commonly accepted cutoffs. Therefore, the executive members' ratings were averaged to calculate their firm product innovation performance.

Control variables

We controlled for variables that are known to influence firm performance: firm size, represented by the number of employees; CEO gender (0 = female, 1 = male); CEO age; and CEO education (1 = primary school, 2 = middle school, 3 = high school, 4 = bachelor's degree, 5 = master's degree, 6 = PhD). Firm size was controlled because a firm with a higher number of employees tends to perform better than a firm with fewer employees based on economies of scale (Chun, Shin, Choi, & Kim, 2013). CEO demographics were controlled because they shape CEOs' skills and abilities to influence firm innovation (Chen & Nadkarni, 2017).

Analysis

We tested the proposed hypotheses using regression analysis with Mplus 7.11 (Muthén & Muthén, 2013). Following previous studies, when testing the interaction effect, we grand-mean-centered CEO family harmony to reduce the influence of multicollinearity (Den Hartog, Boon, Verburg, & Croon, 2013).

Results

Nonresponse and attrition analyses

Despite our best efforts, not all the CEOs and TMT members responded, potentially causing concern regarding nonresponse bias. To check for this bias, we gathered secondary data about the firms' age from a statistical archive, and we found no significant differences in firm age ($p > .10$) between responding and nonresponding firms. Hence, nonresponse bias was not a concern in our data analysis.

To test the attrition of respondents, we followed the recommendations of Goodman and Blum (1996) to test whether there were systematic differences in their responses. First, we conducted multiple logistic regressions by regarding survey time (i.e., T1 and T2) as the dependent variable and the variables collected at T1 as the independent variables (i.e., CEO gender, CEO education level, founder status, family harmony, and firm size). The results of these regressions indicated that all of the logistic regression coefficients were nonsignificant. Second, the results of t -tests showed no significant mean differences in the key variables between Time 1 and Time 2. Hence, respondent attrition did not have a substantial impact on the findings.

Confirmatory factor analyses

We conducted a series of confirmatory factor analyses to test the discriminant validity of our measurement model (see Table 1). The results indicated a good fit for our proposed 3-factor model (i.e., CEO family harmony, TMT behavioral integration, and firm product innovation performance):

Table 1. Confirmatory factor analysis

Models	$\chi^2(df)$	$\Delta\chi^2$	CFI	TLI	SRMR	RMSEA
CEO family harmony, TMT behavioral integration, firm product innovation performance	494.09 (149)	–	.93	.93	.04	.07
Combined CEO family harmony, TMT behavioral integration	2,534.72 (151)	2,040.63**	.58	.52	.18	.19
Combined TMT behavioral integration, firm product innovation performance	952.82 (151)	458.73**	.86	.84	.11	.09
Combined CEO family harmony, firm product innovation performance	1,077.33 (151)	583.24**	.84	.81	.12	.12
All three factors combined	2,692.54 (152)	2,198.45**	.55	.49	.15	.19

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

$\chi^2_{(149)} = 494.09$, comparative fit index (CFI) = .93, Tucker–Lewis index (TLI) = .93, standardized root mean square residual (SRMR) = .04, and root mean square error of approximation (RMSEA) = .07. This model had a better fit than other models. For example, when CEO family harmony and firm product innovation performance were combined into one factor, the model fit indices were $\chi^2_{(151)} = 1,077.33$, CFI = .84, TLI = .81, SRMR = .12, and RMSEA = .12. When TMT behavioral integration and firm product innovation performance were combined into one factor, the model fit indices were $\chi^2_{(151)} = 952.82$, CFI = .86, TLI = .84, SRMR = .11, and RMSEA = .09. When all the variables were combined into one factor, the model fit indices were $\chi^2_{(152)} = 2,692.54$, CFI = .55, TLI = .49, SRMR = .15, and RMSEA = .19. The results showed that our proposed model fit the data significantly better than any other alternative models ($\Delta\chi^2$ s [$\Delta df = 2$ or 3] ranged from 458.73 to 2,198.45, $p < .01$). These results provided support for the construct distinctiveness of the three variables in our model.

Common method variance

As the data were self-reported, we followed the recommendation of Williams and McGonagle (2016) to create and add an unmeasured latent method construct into our proposed measurement model to test for the possibility of common method bias. The model produced a good model fit with $\chi^2_{(135)} = 372.99$, CFI = .96, TLI = .95, SRMR = .04, and RMSEA = .07. The result of a chi-square test showed that the method factor improved the fit of the proposed measurement model ($\Delta\chi^2_{(\Delta df = 14)} = 121.1$, $p < .01$). However, the median method variance for all the indicators (i.e., the average of the squared standardized factor loadings of the unmeasured latent method construct) was only 16.2%, which was lower than the 17.2% reported by Williams and McGonagle (2016). Thus, common method variance was not a serious problem in this study.

Descriptive statistics

Table 2 reports the means, standard deviations, and correlations of the variables. Our results showed that CEO family harmony was significantly and positively related to TMT behavioral integration ($r = .50$, $p < .001$) and firm product innovation performance ($r = .28$, $p = .004$). TMT behavioral integration was also positively associated with firm product innovation performance ($r = .49$, $p < .001$). These correlations were consistent with our theoretical predictions.

Hypothesis 1 proposes that CEO family harmony is positively related to TMT behavioral integration. The results for Model 2 in Table 3 show that CEO family harmony was positively related to TMT behavioral integration ($\beta = .36$, $p < .001$), supporting Hypothesis 1.

Table 2. Descriptive statistics and correlations among study variables

Firm-level variable (N = 101)	Mean	SD	1	2	3	4	5	6	7
1. CEO gender	.75	.43							
2. CEO age	42.47	8.07	.23*						
3. CEO education	3.86	.71	-.05	-.13					
4. Firm size	106.67	148.90	.09	.13	.23*				
5. CEO family harmony	4.28	.63	.04	-.05	.11	-.09			
6. CEO founder status	.66	.47	.17	.09	-.17	.05	-.32**		
7. TMT behavioral integration	3.96	.47	.07	-.02	.15	-.02	.50**	.00	
8. Firm product innovation performance	3.75	.49	.10	-.16	.16	.01	.28**	.25*	.49**

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

Table 3. CEO family harmony, TMT behavioral integration, and firm product innovation performance

Variable	TMT behavioral integration			Firm product innovation performance				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
<i>Control variables</i>								
CEO gender	.09 (.11)	.06 (.10)	.03 (.10)	.17 (.13)	.15 (.12)	.12 (.11)	.13 (.11)	.07 (.10)
CEO age	-.00 (.01)	.00 (.01)	.00 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01 (.01)	-.01* (.01)
CEO education	.11 (.07)	.07 (.06)	.08 (.05)	.11 (.08)	.09 (.08)	.05 (.07)	.05 (.07)	.09 (.07)
Firm size	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00 (.00)	.00
<i>Independent variable</i>								
CEO family harmony		.36*** (.06)	.17 (.11)		.19* (.08)		.02 (.08)	-.08 (.14)
<i>Moderator variable</i>								
CEO founder status			-1.43* (.59)					-1.24 (.78)
<i>Interaction variable</i>								
CEO family harmony × CEO founder status			.36** (.13)					.36* (.17)
<i>Mediator variable</i>								
TMT behavioral integration						.49*** (.09)	.48*** (.10)	.35*** (.10)
<i>Indirect effect</i>								
							.17*** (.04)	
<i>Total effect</i>								
							.19* (.08)	
Pseudo-R ²	.03	.25	.33	.07	.13	.29	.29	.41
Δ Pseudo-R ²		.22	.08		.06	.22	.22	.13

Note: Standard errors are reported in parentheses.
 **p* < .05.
 ***p* < .01.
 ****p* < .001.

Hypothesis 2 states that TMT behavioral integration is positively related to the firm product innovation performance. The results for Model 6 (Table 3) indicate that this relationship was significant and positive ($\beta = .49, p < .001$), supporting Hypothesis 2.

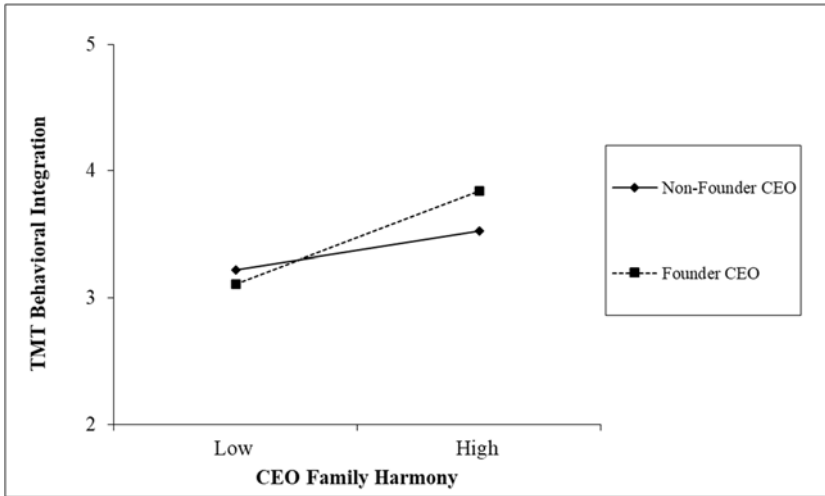


Figure 2. Interaction effect of CEO family harmony and CEO founder status on TMT behavioral integration.

Table 4. Simple effects for firm product innovation performance

Moderator	Value	Stage		Effect		
		First	Second	Direct	Indirect	Total
CEO founder status	No	-.00 (.16)	.35***	.50 ⁺ (.26)	-.00 (.06)	.50 (.27)
	Yes	.34*** (.07)	.35***	.08 (.09)	.12** (.04)	.20* (.09)
	Difference	.36** (.13)	-	-.42 (.29)	.12* (.06)	-.30 (.30)

Note: Standard errors are reported in parentheses.

⁺*p* < .10.

**p* < .05.

***p* < .01.

****p* < .001.

Hypothesis 3 proposes that TMT behavioral integration mediates the relationship between the CEO family harmony and the firm product innovation performance. The results for Model 7 (Table 3) show that the positive relationship between CEO family harmony and firm product innovation performance was not significant when we included TMT behavioral integration as a mediator ($\beta = .02, p = .81$) and that the indirect effect of CEO family harmony on firm product innovation performance via TMT behavioral integration was significant and positive ($\beta = .17, p < .001$), supporting Hypothesis 3.

Hypothesis 4 proposes that CEO founder status plays a moderating role in the relationship between CEO family harmony and TMT behavioral integration. As Table 3 shows, the results for Model 3 suggested that CEO founder status moderated this relationship ($\beta = .36, p = .005$), supporting Hypothesis 4. To further test this moderation, we plotted the interaction effect at one standard deviation below and above the mean of CEO founder status (Aiken, West, & Reno, 1991). The results shown in Fig. 2 and Table 4 indicate that CEO family harmony had a significant and positive effect on TMT behavioral integration for founder CEOs (slope = .34, $t = 5.19, p < .001$), but the relationship between CEO family harmony and TMT behavioral integration was not significant for non-founder CEOs (slope = $-.00, t = -.03, p = .98$), further supporting Hypothesis 4.

Hypothesis 5 states that the indirect effect of the CEO family harmony on the firm product innovation performance through TMT behavioral integration is stronger for founder CEOs than for non-founder CEOs. To test this hypothesis, we followed Preacher, Rucker, and Hayes (2007) and

estimated the conditional coefficients (i.e., simple effects) for the first stage (the path from CEO family harmony to TMT behavioral integration) and the second stage (the path from TMT behavioral integration to firm product innovation performance) as well as the direct effects (the path from CEO family harmony to firm product innovation performance), indirect effects (the path from CEO family harmony to firm product innovation performance via TMT behavioral integration), and total effects across levels of CEO founder status. As shown in [Table 4](#), CEO family harmony had a significant and positive indirect effect on firm product innovation performance for founder CEOs (the indirect effect was $.12$, $p = .003$), whereas the indirect effect of CEO family harmony on firm product innovation performance was not significant for non-founder CEOs (the indirect effect was $-.00$, $p = .98$). In addition, the difference between the indirect effects for founder CEOs versus non-founder CEOs was $.12$ ($p = .03$). Overall, these results provided support for Hypothesis 5.

Discussion

Drawing on upper echelons (Hambrick & Mason, 1984) and work–family enrichment (Greenhaus & Powell, 2006) theories, this study finds that CEOs who have a harmonious family life are endowed with affect, values, and abilities to promote collective efforts and integrate team skills and knowledge, thereby facilitating their firms' product innovation performance. In addition, the effects of CEO family harmony are stronger for founder CEOs than for non-founder CEOs.

Theoretical contributions

This study makes several contributions to the upper echelons and work–family spillover literature. First, we introduce the psychological concept of family harmony into management research by conceptualizing family harmony at the CEO level and examining its effects on TMT social dynamics and firm outcomes. Upper echelons theory suggests that CEOs' experiences, values, and personalities influence strategic decisions and behaviors (Hambrick & Mason, 1984; Kaplan *et al.*, 2012), which in turn influence their firms' performance (Araujo-Cabrera *et al.*, 2017; Berson *et al.*, 2008). The effects of CEOs' values and personalities on their firms' outcomes have been well documented (e.g., Zhu & Chen, 2015). However, we know less about the impact of CEOs' non-work experiences on their firms' performance. In addition, Konrad and Mangel (2000) found that effectively managing family and work issues at a strategic level can endow firms with competitive advantages. Similarly, Mulvaney, O'Neill, Cleveland, and Crouter (2007) showed that strategically addressing work and family issues can enhance hotels' competitiveness. In response to the call for novel research questions regarding CEO family experiences (Reina *et al.*, 2017), this study focuses on the CEO level and demonstrates that CEO family harmony is a source of competitive advantage that benefits TMT processes and firm performance. Our exploration of when and how CEO family harmony relates to firm performance thus improves the understanding of how CEOs' experiences outside the work domain affect firm performance. Our study can encourage future research to investigate the effects of other types of CEOs' positive family experiences (e.g., CEO marital satisfaction, romantic love with a partner, sexual activity at home) on firm outcomes (e.g., corporate social responsibility, employee turnover rate) with the integration of upper echelons and work–family enrichment theories.

Second, over the last decade, scholars have focused on the beneficial effects of work–family enrichment on individual outcomes, including job satisfaction, affective commitment to the organization, and physical/mental health (McNall, Nicklin, & Masuda, 2010). Applying an enrichment perspective to the CEO's family effects extends the beneficial effects of work–family enrichment from the individual level to the team and firm levels and illustrates the intersection of upper echelons (Hambrick & Mason, 1984) and work–family enrichment (Greenhaus & Powell, 2006) theories. This approach responds to the call for a better understanding of the role of leaders' families in group-level variables (Straub, 2012) as well as the call to provide a more balanced view than the conflict-dominant literature offers (Lapierre *et al.*, 2018). In addition, our findings extend work–family enrichment theory

to include CEO family harmony. Research has indicated that family support is the strongest predictor of family-to-work positive spillover (Lapierre et al., 2018). We take a further step by including CEO family harmony in our model. Our research suggests that family provides a setting in which CEOs can learn and acquire positive affect, collective perceptions, and interpersonal skills, which enrich the quality of their work lives. Future research could take a more fine-grained approach to examine how family harmony promotes CEOs' positive affect and personal learning, which in turn, enhance positive emotional climate and group/organizational learning at the TMT and firm levels.

Third, by regarding TMT behavioral integration as a core mediator that links CEO family characteristics and firm outcomes, this study contributes to the understanding of upper echelons theory (Hambrick & Mason, 1984) and TMT processes (Simsek et al., 2018) in terms of the link between the CEO's family characteristics and organizational outcomes. Previous studies have focused on how the CEO's family characteristics or experiences influence firm outcomes, but the CEO-TMT interface has been overlooked (e.g., Reina et al., 2017). Scholars of upper echelons theory have thus called for more research on the mediating role of the CEO-TMT interface in the relationship between CEO characteristics and firm outcome variables (Simsek et al., 2018). Consistent with past studies, our findings provide empirical support for the CEO-TMT interface perspective, showing that interactions between CEOs and TMT members have organizational implications (Palmer, Holmes, & Perrewé, 2020). Our study is the first to explore the mediating role of TMT behavioral integration in the link between the CEO's family characteristics and their firm's outcomes. Our findings suggest that the CEO-TMT interface is a particularly fruitful area for exploring the effects of the non-work experiences of CEOs, opening the door for scholars to ask and test novel research questions associated with CEO non-work experiences. For example, future research could integrate the conflict perspective and upper echelons theory to examine the mediating role of TMT behavioral integration in the relationship between CEO family-to-work conflict and firm performance beyond the mediating effect of CEO decision making comprehensiveness found by Reina et al. (2017).

Finally, this study contributes to the upper echelons literature by providing evidence of the moderating role of managerial discretion, which affects the extent to which the CEO's characteristics influence their firm's strategies and consequences (Hambrick, 2007). The context of CEOs' family provides an opportunity to discover additional discretion-enhancing settings associated with managerial discretion. Upper echelons scholars have used CEO founder status as a proxy for managerial discretion to provide the boundary condition of the effects of CEO ethical leadership, under the assumption that the influences of CEO ethical leadership are stronger for founder CEOs than for non-founder CEOs (Wu et al., 2015). Previous studies did not focus on the moderating role of CEO founder status regarding the effects of the family characteristics or the experiences of top executives. In contrast, this study shows that CEO founder status, as a proxy for managerial discretion, can have critical implications for how CEOs' attributes or experiences affect TMT and firm outcomes, which is a critical yet overlooked prediction of upper echelons theory and shows that managerial discretion has wider applicability. Hence, our findings not only support the generalizability of research findings on managerial discretion represented by founder status, but also provide insights into the role of managerial discretion in the effects of CEOs' non-work experiences.

Practical implications

In practical terms, product innovation has been recognized as a primary source of competitive advantage (Bantel & Jackson, 1989; Chen et al., 2015; Danneels, 2002), and continuous innovation requires the knowledge, skills, and creative efforts of the whole organization (Dess & Picken, 2000). Our study provides several methods to enhance firms' product innovation performance. First, organizations should be aware that a harmonious family life is a valuable resource for CEOs. A harmonious family life can provide positive affect and teach values, skills, and perspectives that are beneficial to the

CEO's followers and organizations. Therefore, organizations should consider the harmonious family life of CEOs as an important factor when promoting or recruiting new CEOs.

Second, TMT behavioral integration is essential for enhancing a firm product innovation performance. Therefore, organizations should be sensitive to TMT functions. In addition to helping CEOs encourage interactions between TMT members, organizations could design interventions that facilitate the internal dynamics of TMTs, such as integrative behaviors during decision-making processes (Raes, Bruch, & Jong, 2013).

Finally, our findings show that managerial discretion strengthens the positive impact of CEOs' family experiences. Specifically, the effect of the CEO family harmony on their firm product innovation performance is stronger for CEOs who have greater latitude in their actions. Therefore, organizations should identify CEOs who hold high levels of managerial discretion and encourage them to apply what they have learned from their family harmony to promote TMT behavioral integration and product innovation performance.

Limitations

Despite the above contributions, our study has six limitations. First, our data were time lagged, which makes it difficult to rule out the likelihood of reverse causality (Law, Wong, Yan, & Huang, 2016). It is possible that TMT behavioral integration leads a CEO to pay attention to events associated with family harmony. Although the literature supports our arguments that the characteristics of CEOs are determinants of TMT and firm performance (Hambrick & Mason, 1984), future research could use longitudinal data or experimental methods to confirm the causality hypothesized in this study.

The second concern is common method bias because the data came from subjective survey ratings. To alleviate this bias, we collected data from CEOs and other TMT members. Nevertheless, we acknowledge that common method bias could be an issue, as TMT behavioral integration and firms' product innovation performance were rated by TMT members simultaneously. To reduce common method bias, future research could collect data at different time points and collect data on firms' product innovation performance represented by patents and the number of new products from objective sources, such as statistical yearbooks (Li & Tang, 2010).

Third, CEO founder status was used as a proxy for managerial discretion. Although this method is consistent with the literature (Wu *et al.*, 2015), this proxy variable may capture relationships unrelated to managerial discretion. Future research could develop a scale to measure managerial discretion directly and then examine its moderating role. Additionally, future research could use other variables associated with managerial discretion, including firm size (Wu *et al.*, 2015), CEO duality (Hadani, Dahan, & Doh, 2015; Xie, 2014), and political appointment (Li & Tang, 2010), to further validate the moderating effect of CEO managerial discretion as a boundary condition of the impact of CEO attributes and experiences.

Fourth, our study did not consider other possible moderators that provide the boundary condition for the effects of CEOs' family harmony. Work–family enrichment theory proposes that work involvement is likely to strengthen the positive spillover effect from family to work because individuals who are more strongly involved in work tend to pay greater attention to opportunities to transfer resources acquired from family to work (Greenhaus & Powell, 2006). Future research could add the moderating role of work involvement to our proposed model and examine the moderating effect of work involvement above and beyond the moderating effects of founder status.

Fifth, this study examined the effects of CEO family harmony in various high-tech firms, and the findings may not be generalizable to other industries. High-tech firms are quite different from firms in other industries in that they face huge uncertainty and rapid change (Peterson, Walumbwa, Byron, & Myrowitz, 2009). As authority is strongly concentrated in CEOs in uncertain and dynamic environments, the effects of CEO characteristics on CEO leadership behaviors and firm performance are stronger in high-tech firms than in firms in other industries (Peterson *et al.*, 2009). Future research

could test our proposed model with data from other industries to examine the generalizability of our findings.

Finally, another generalizability issue with our research findings concerns firm size and CEO age. The results of this study were much more positive for founder CEOs than for non-founder CEOs because the firms were small and because the CEOs were young. Therefore, founder status may be more meaningful for a founder CEO than for a non-founder CEO (e.g., a professional manager). We encourage researchers to test our proposed model with data from larger firms and firms with older CEOs to examine the external validity of the moderating effects of founder status.

Conclusion

The upper echelons literature has shown that CEOs' values and personalities influence their strategic decisions and behaviors (e.g., Kaplan et al., 2012) and firm performance (e.g., Araujo-Cabrera et al., 2017). However, few studies have investigated the role of CEOs' experiences outside the work domain. Based on upper echelons (Hambrick & Mason, 1984) and work–family enrichment (Greenhaus & Powell, 2006) theories, our theoretical model and empirical findings bridge this knowledge gap by introducing CEO family harmony from the psychological literature and examining its positive effects on TMT behavioral integration and firms' product innovation performance. Moreover, this study shows that CEO founder status strengthens such effects. We hope that our study will encourage further scholarly efforts to explore the role of CEOs' non-work experiences, thus advancing and enriching the upper echelons and work–family literatures.

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