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Emotionally intelligent top management and high family firm performance: Evidence from Germany

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ABSTRACT

Executives in family firms are often confronted with emotionally loaded issues, in part due to the need to include the interests of the owning family. Given this context, we hypothesize how high family-firm performance is affected by the emotional intelligence (EI) of a family-based CEO and top-management team (TMT), in addition to the CEO's transformational leadership (TFL) and TMT's behavioral integration. Survey measures were taken from a random sample of 72 CEOs of German family firms and 245 members of their TMTs. We found that TMT behavioral integration mediates between CEO TFL and objective firm performance while CEO EI is significantly related to both CEO TFL and TMT EI. Implications are discussed for future research thereby suggesting an extension to upper-echelon theory.

1. Introduction

Approximately a decade ago, Vallejo (2009) established that effective leadership in family firms is more transformational than in non-family firms. The concept of transformational leadership (TFL) was originally adopted by Bass (1985) from Burns (1978), who used it in the context of public leadership. TFL is of particular importance as the emotions of firm-owning family members are often spoilers of family-firm performance (Shepherd, 2016). Without doubt families and their family-based CEOs can be liabilities (Barnett & Kellermanns, 2006; Zellweger, Eddleston, & Kellermanns, 2010), but families and their family-based CEO's leadership behaviors can also be assets to their firms and improve organizational performance. In line with Lee (2006) we assume that if family business owners also participate in management (e.g., through a family-based CEO), they might command greater loyalty within the firm, and thereby enhance employee productivity or overall firm performance. This field study of German family firms addresses the specific behavioral styles of family-based CEOs and how especially the TFL style is likely to contribute to the performance of family firms. We argue in this paper that this style affects the executive team they are leading and that the behavioral patterns of this team, in turn, affects firm performance.

While well-chosen non-family executives may lead family firms into success (Neffe, Wilderom, & Lattuch, 2020), this study's focus is on how

a family-based CEO and his or her non-family based executive team deal with their inevitable daily emotions. These emotions arise during interactions between the family, the firm's individual members, and the business (Chrisman, Chua, & Litz, 2003; Habbershon & Williams, 1999). As with any intangible organizational resource, these interactions need to be channeled well through leadership (Fries, Kammerlander, & Leitterstorf, 2020). If these interactions are to work as positive resources of a family firm, they are assumed to be embedded in the behaviors of its top leaders. How well top-echelon leaders deal with their emotions at work may offer more understanding of effective top leadership in family firms (Bee & Neubaum, 2014; Kellermanns, Dibrell, & Cruz, 2014). Thus, in this paper we present how various behavioral patterns of top leaders of family firms are associated with the objective performative thriving of their firms.

Studies by George (2000), Gooty, Conelly, Griffith, and Gutpa (2010), as well as Wilderom, Hur, Wiersma, van den Berg, and Lee (2015), have already established the performative importance of emotional intelligence (EI) of top managers in several business contexts. State-of-the-art leadership studies stipulate that followers' behavioral as well as emotional reactions to their leader are important for healthy followership and performance (e.g., Georgakakis, Greve, & Ruigrok, 2017; Koman & Wolff, 2007). Thus, emotional and behavioral dynamics at the top of a family firm seem to matter businesswise (Cabrera-Suárez, Déniz-Déniz, & Martín-Santana, 2014). How emotions at the helm of a

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family firm are being dealt with by the CEO and TMT was therefore empirically examined in the present study.

Consistent with the finding of Hur, van den Berg, and Wilderom (2011), that TFL mediates between the EI of a leader and the collective outcome of organizations, we assume here that a TMT behaves in an integrated way when led by an emotionally intelligent transformational-type CEO (Lindebaum & Cartwright, 2010). TMT behavioral integration stands for frequent collaborative behavior, information exchange, and joint decision making (Lubatkin, Simsek, Ling, & Veiga, 2006), entailing a wide range of actions that reflect the effects of an emotionally intelligent transformative CEO on his or her TMT members. Even though ample evidence is available for the positive firm effects of TMT behavioral integration (Lubatkin et al., 2006), this TMT variable has not been examined before in the context of the family firm's upper-echelon functioning (Wang, Holmes, Oh, & Zhu, 2016).

Past studies have extensively examined the role of management teams that operate one level below a CEO (e.g., Díaz-Fernández, González-Rodríguez, & Simonetti, 2015). In some of these studies, the CEO is included in TMTs (Tang, 2017). For research-analytical purposes, we expressly separate the CEO from the rest of the TMT in order to tease out how both actors relate to each other at work. This understanding is in line with Tang (2017) who studied the effects of CEO duality (occupying the chair position of the board of directors and TMT members) on firm performance. Earlier studies have shown that TMT members' characteristics, attitudes and behaviors are strongly linked to the firm's overall performance (Hambrick, Humphrey, & Gupta, 2014; Jaskiewicz, Block, Miller, & Combs, 2014; Wang et al., 2016). According to Lampaki and Papadakis (2018) trustworthy TMTs can even act as coping resources to middle managers who are exposed to stressors such as politics, self-serving agendas, or change during their daily work. Moreover, TMT effects are likely to be greater than any individual's effect (Lo & Fu, 2016).

Given that the CEOs of family firms often represent the owning-family members, and that the TMT has to take the interests of their firm's owners into consideration, the present research investigates how the emotion-loaded behaviors of a CEO who co-owns the family firm and his or her non-family based executive team interact, and how these actors jointly navigate toward high firm performance. Therefore, in the present study the following research question is crucial: could family-firm performance be affected by the TFL style of its CEO in combination with the so-called behavioral integration of his or her TMT, and does the presence of high EI in both actors play a positive role? Our sub-questions are: (1) is there a relationship between a high level of EI in a family-firm CEO and his or her level of TFL? and (2) can both factors be associated with positive firm performance through a TMT that is emotionally intelligent and behaviorally well integrated? By empirically field testing our hypothesized model (Fig. 1), we bridge the gap between TFL, TMT and EI studies in the area of family-firm performance research.

A family's power to shape the firm's goals and behaviors is a resource that differentiates family from non-family firms (Neffe et al., 2020). Its

long-term orientation and value-driven decision-making has been associated with high-performance firms (Carr, Vardaman, Marler, McLarty, & Kellermanns et al., 2014; Lattuch, 2019). This paper draws attention to the fact that family-based CEOs and their TMT members tend to interact in emotionally-loaded contexts since the family and the business are always intertwined. We report here the empirical fact that the level of emotional intelligence of both CEOs and their TMTs is related to their family-firm performance and how this plays out specifically in those contexts.

Objective firm-performance measures were obtained from 72 German family firms, while all 72 CEOs were queried as well as their 245 TMT members. This unique dataset permitted an examination of five specific hypotheses in a country in which family-firms represent the backbone of the national economy (Klein, 2000). Worldwide, Germany has one of the highest ratios of family-owned firms versus otherwise-owned businesses (Beck & Prügl, 2018). Moreover, Germany has a long history of this prominence and is economically recognized as a country with one of the strongest cultures for the flourishing of world-class family firms (Kraus, Harms, & Fink, 2011). Whilst cross-culturally the Germans are not known for being open about their emotions, the results obtained by this study might be of wider, international importance.

2. Theory and hypotheses

2.1. The role of transformational leadership in the performance of a family firm

In order to explain the performance of family firms, research in the family business literature focused mainly on tangible factors (Zellweger & Nason, 2008). However, family firms also display many intangible, seemingly non-economic behaviors. Habbershon, Williams, and Mac-Millan (2003) developed a unified systems model of family firm performance and indicated how the interactions of the family, the business entity, and individually employed family members are linked to family firm performance outcomes. This model moved us closer to understanding the dynamics of high performing family businesses. In our view, leadership theory can help explain the strong link between family-firm resources and their performance, given also that many prior studies have shown a link between top-management behavior and firm performance (e.g., Jensen, Potočnik, & Chaudhry, 2020; Tang, 2017; Wilderom, van den Berg, & Wiersma, 2012; Zhan, Cao, & Tjosvold, 2011).

The TFL style entails four behavioral dimensions. First, *individualized consideration* affects subordinates' emotions positively, often leading to higher follower loyalty. The family literature seems to agree that family firms must meet this criterion as they are primarily person-oriented (Vallejo, 2009). Second, transformational leaders engage in *intellectual stimulation*, thereby encouraging their followers to challenge the status quo or reframe work situations (Ayoko & Callan, 2010). This behavior

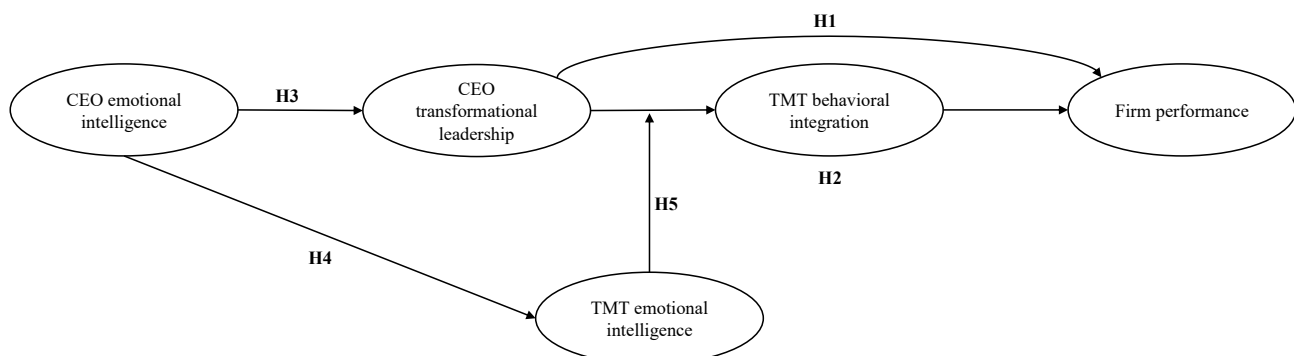


Fig. 1. Graphical depiction of the hypotheses guiding this field study.

requires a high degree of trust, which is commonly reported as being present in family firms (Gómez, 2004; Nienhaber, Romeike, Searle, & Schewe, 2015). Third, a leader's *inspirational motivation* is seen as building a common vision and united goals (Mammasis & Kostopoulos, 2019). Gómez (2004), among others, noted that a long-term organizational orientation through such a vision is central in most effective family firms. Moreover, Mammasis and Kostopoulos (2019) argued that goal orientation is particularly important for CEOs who engage in challenging tasks. Fourth, research has shown that leader's so-called *idealized influence* affects followers' degree of focus on their work (Mullen, Kelloway, & Teed, 2017). Jensen et al. (2020) did substantiate the links between *intellectual stimulation*, *inspirational motivation* and *individualized consideration* and financial firm performance. High performing family firms are considered to act according to a unique set of values nurtured by the top leaders' TFL style and shared by their employees (Gómez, 2004). We contend that a family-firm CEO with a TFL style has a positive effect on the family-firm's performance. There is already evidence of this relationship in non-family-owned German organizations (e.g., Braun, Peus, Weisweiler, & Frey, 2013), while little is known about it in the context of family firms. Considering the idiosyncratic characteristics and values of family-firm type organizations, we examine if the relationship between family-based CEO TFL and family-firm performance would be upheld also in Germany. This is reflected in our first hypothesis:

H1. CEO TFL is positively related to family-firm performance.

2.2. TMT behavioral integration as mediator between CEO's TFL and family-firm performance

Several studies indicate also an indirect link between TFL and firm performance, via leadership effects on followers (Rapp, Gilson, Mathieu, & Ruddy, 2016). Analysing a credible indirect link is important, especially since research highlighted that firm performance may be too distant of an outcome for CEOs to have any direct impact on (Hambrick et al., 2014; Jensen et al., 2020). The employees who are most directly affected by a CEO's leadership style are members of the TMT, representing one of firms' highest management levels. According to Hambrick and Mason's (1984) upper echelon theory, management teams play a critical role in firms' processes and performance. The upper-echelon characteristics, such as individual member experience, education, and also team characteristics, affect strategic business choices and firm outcomes (Díaz-Fernández et al., 2015). TMT's and CEO's behavior during decision making has come to the fore in upper echelon discussions due to significant discretion enjoyed by leaders of family firms (Carr et al., 2020; Kelleci, Lambrechts, Voordeckers, & Huybrechts, 2019). Correspondingly, Lo and Fu (2016) found that a top management team has a greater effect on the organization than a single leader. Yet, little is known about how family firms' TMT members coordinate their individual tasks and firm-related information. Prior TMT research called this phenomenon 'behavioral integration' (Carmeli, Schaubroeck, & Tishler, 2011; Friedman, Carmeli, & Tishler, 2016). Behavioral integration of a TMT involves (a) collaborative behavior, (b) information exchange, and (c) joint decision making (Lubatkin et al., 2006). Behaviorally integrated teams are known to manage complex knowledge well through constant coordination among its members (Lubatkin et al., 2006). Their information exchanges enable them to gain access to valuable complementary knowledge, and even skills (Hambrick, 2007). Joint decision making allows behaviorally well integrated teams to act safely in changing or uncertain settings (Lubatkin et al., 2006). TMT members must typically bridge any gap between a family-firm CEO and the firm's other stakeholders. Hence, consistently well-aligned management at the top of a firm's hierarchy might prevent employee misconceptions of the family-firm CEO or other members of the family.

In explaining how firm performance can be enhanced through TMT behavioral integration, the effects of transformational leadership may be

considered as key. The degree of behavioral integration within a team can be influenced by their leader (Burke et al., 2006). Carmeli et al. (2011) found that empowering leadership leads to TMT behavioral integration, acting in turn as a mediator vis-a-vis firm performance. McNatt and Judge (2004) conducted a meta-analysis and reported that both empowering and transformational leadership styles have similar 'integrative' or 'coordinative' effects on their followers. We argue, therefore, that behavioral integration serves as a mediator between TFL and family-firm performance. TMT behavioral integration incorporates a broad array of such coordinative firm-wide behaviors (Carmeli et al., 2011), important for the functional coordination of the firm, as previously shown in studies linking TFL to various team performance contexts (Cha, Kim, Lee, & Bachrach, 2015; De Jong, Dirks, & Gillespie, 2016). This allows us to propose the following hypothesis:

H2. TMT behavioral integration mediates the relationship between CEO TFL and family-firm performance.

2.3. CEO emotional intelligence and TFL in family firms

Several definitions of EI have been presented in the literature. Mayer and Salovey's (1997) definition describes EI as perceiving, appraising, regulating, and expressing feelings as well as channeling them to desired outcomes. As EI and TFL both belong to prominent theories in organizational behavior research, several studies investigated the possible relationship between both constructs (e.g., Antonakis, Ashkanasy, & Dasborough, 2009; Brown & Moshavi, 2005; Butler & Chinowsky, 2006; Hur et al., 2011). Bass and Avolio (1997) demonstrated that transformational leader behaviors (individualized consideration, intellectual stimulation, inspirational motivation, and idealized influence) are hardly possible without being emotionally intelligent (Mayer, Salovey, & Caruso, 2004). Individualized consideration, for instance, requires empathizing with followers. This quality of interpersonal relating was examined by Gómez Betancourt, Botero, Betancourt Ramirez, and López Vergara (2014), who found, that CEO EI has a positive impact on such dynamics at both the individual and group level.

CEOs with a high level of EI are more likely to act well in those situations of potential conflict, as they are able to demonstrate a transformational leadership style, accommodate human individuality or followers' idiosyncratic characters. CEOs of family firms who score high in transformational behavior are therefore assumed to be emotionally intelligent, having been extensively groomed and/or selected for those qualities in their past careers. Hence:

H3. CEO EI is positively related to CEO TFL in family firms.

2.4. CEO EI and TFL and TMT EI and behavioral integration

Whilst a leader's EI and its effect on followers are well-documented in the recent academic literature (Li, Gupta, Loon, & Casimir, 2016; Miao, Humphrey, & Qian, 2017), little empirical research has addressed the relationship between the EI and TFL of CEOs and their TMTs. Rafaeli and Worline (2001) argue that leaders are not only responsible for their own emotions, but also in part for the emotions of their team members. Several studies applied an even broader perspective by noting that leaders also shape organizational climate, culture, processes, motivation, behaviors and norms as well as the performance of the team they lead (e.g., Franssen et al., 2015; Lattuch & Young, 2011). According to Goleman (2001), leaders with high EI create work environments in which their employees are likely to perform well. Numerous empirical studies found empirical support for this contagion perspective (e.g., Van Kleef et al., 2009). Emotionally intelligent leaders might even attract and recruit emotionally intelligent followers. According to the attraction-selection-attrition theory (Daus, Dasborough, Jordan, & Ashkanasy, 2012), it is likely that CEO EI will be reflected in the degree of TMT EI. Hence, a positive similarity-attraction bias can occur during TMT selection processes (Podsakoff, Podsakoff, MacKenzie, & Lee,

2003). Since TMTs in family firms are rather small groups, and the selection process tends to be carefully done in such a setting (Kraicz, Hack, & Kellermanns, 2015; Van Gils, 2005), EI contagion effects are likely to occur also in family firms. Thus:

H4. In family firms, CEO EI is positively related to TMT EI.

It is widely assumed that effectively managing the emotional turmoil typically occurring at or around the top of family firm hierarchies can have an effect on the longevity of family firms. Ibrahim and Ellis (2004) noted that followers are discouraged by irrational behavior. TMT members in family firms also can be assumed to be directly affected by the leadership style of their CEOs. As noted above, a CEO's TFL may benefit from a high degree of emotional intelligence. Moreover, the four dimensions of TFL are likely to influence the emotional states of followers. Therefore, doing a good job as a TMT requires a high degree of emotional sensitivity. A high level of TMT EI will help their members to cope better with the highly emotional context of family-firm CEOs. Furthermore, emotionally intelligent individuals are known to support other members of their teams (Wolff, Pescosolido, & Druskat, 2002). This includes supportive behavior in critical situations (Pescosolido, 2002) and creating a respectful work environment (Jordan & Lawrence, 2009), which are all elements associated with behavioral integration. TMT members are not only supported by TMT EI, which often induces or maintains the TMT coordination, but also by a CEO's TFL (Neffe et al., 2020). Hence, we can state the following hypothesis (see, Fig. 1):

H5. TMT EI moderates the relationship between CEO TFL and TMT behavioral integration in family firms.

3. Method

In their review of leadership research of the past 10 years, Dinh et al. (2014) noted that leadership research mainly focuses on *isolated* effects instead of on connecting *different* behavioral phenomena at *different* hierarchical levels. This is an additional reason for the present study's focus on the behavior of CEOs vis-a-vis their TMT. Our hypotheses specify a model where TMT EI moderates between CEO TFL and TMT behavioral integration. Moreover, TMT behavioral integration is assumed to mediate between CEO TFL and family-firm performance. Two separate surveys, one for family-firm CEOs and the other for their TMT members, were administered so that we could independently examine how CEOs and TMTs relate to each other and how these top-managerial forces may influence objective family-firm performance. Our two-source survey approach curbed potentially distorting common-source bias (Podsakoff et al., 2003).

By initially using a university register of local family firms, and snowball sampling, a wide range of family firms in Germany were recruited. A firm was allowed to participate in the study if at least 30% of the firm ownership was under effective family control (Ward, 2011). Family firms that met this criterion were contacted, informed about the study and promised a benchmarked-feedback report. During the sampling we ensured that all participating family firms were led by a single CEO who was also a member of the owning family. Therefore, we were able to examine how the leadership of family-based CEOs indirectly affected the firm's performance. During the sampling of the firms we also ensured that none of the TMT members were members of the owning family.

A firm-response rate of 8% was obtained. These firms operated in various industries, including industrial and B2B manufacturing (21%), consumer goods (18%), retail (17%), wholesale (16%), IT (14%) and others (14%). The survey language was German. Prior to survey distribution, back-translations of the original English scales were made by two bilingual researchers.

Once participation was assured (depending on the firm's decision-making structure, either by the firm's CEO or the entire TMT), cooperation was sought from the HR department to administer the two

anonymous surveys. Involving such an insider's 'third' party ensured that the respondents were well selected and approached for independent data collection. All the appointed TMT members of each participating firm completed the survey. Individual respondents who had worked for less than one year within each firm were excluded so as to ensure that the questions could be answered with sufficient observational background (Rousseau, 1990). To increase the response rate, each HR department sent out a reminder after one week to both the CEOs and/or the members of their TMT.

In addition to paper-and-pencil surveys, online participation was offered which did not differ in terms of response rate. A total of 72 valid CEO questionnaires and 245 TMT member surveys were received. All the sampled companies were led by a single CEO who was also a member of the owning family. The CEOs had an average firm-employment length of 19.53 years: 97.2% were male and 2.8% female. The average CEO age was 53.25 years. They were mostly second-generation CEOs (mean within the sample: 2.4); the average age of the firms was 54.19 years. The size of TMTs varied from 1 to 5 members, depending on company size; on average, the TMT consisted of 3.4 individuals with 15.14 years of employment in their current positions. About 49.4% of the TMT members were male and 50.6% female with an average age of 46 years. None of the TMT members was associated with the owning family.

3.1. Survey

The CEO survey contained mainly EI and firm performance measures. Information about CEO EI was collected in the TMT survey and equally weighted, to compensate for possible self-assessment biases (Podsakoff et al., 2003). The CEO survey also requested information about the family firm, including the percentage of shares held by the family and the number of generations represented in the company. Since information of this nature is often not widespread and commonly known, only family members were able to yield this data validly. The remaining measures (of CEO TFL and EI as well as TMT EI and behavioral integration) were collected through the TMT survey. This measurement approach, of using *perceived* leader behavior, is commonly used in leadership studies (Nguyen, Mia, Winata, & Chong, 2017; Vallejo, 2009). TMT members were also asked to provide biographical information. Table 1 provides an overview of all the main variables in the study and the source of the data. Thus, the research design enabled us to control a fair degree of the possible common-source bias. In the section Data Analysis, we specify how we curbed the so-called common-method bias in this study.

3.2. Measures

CEO/TMT emotional intelligence. TMT members rated both themselves and their CEO with the 16-item WLEIS scale adopted from Wong and Law (2002). Answers ranged, on a Likert scale, from 1 ("Strongly disagree") to 7 ("Strongly agree"). A sample item of the TMT

Table 1
The main variables in the tested model.

Latent variable	# of Indicators	Source	Answering scale
CEO emotional intelligence	16	CEO/TMT	7-point Likert scale
TMT emotional intelligence	16	TMT	7-point Likert scale
CEO transformational leadership	7	TMT	5-point Likert scale
TMT behavioral integration	9	TMT	5-point Likert scale
Firm performance	1	CEO	Averaged ROA over the recent and previous quarter
	4	CEO	5-point Likert scale

self-assessment was: “I have good control of my own emotions.” Items were adjusted slightly when TMT members were asked to rate their CEO: “My CEO, to whom I report, has good control of his or her own emotions.” The CEOs were also asked to assess themselves on the same scale. TMT and CEO assessment of CEO EI had a correlation of .51 ($p < .01$). CEO EI was calculated using the ratings of the TMT and the CEO equally by following the so-called additive model (Chang, Sy, & Choi, 2011; Koman & Wolff, 2007). The Cronbach’s α of the TMT EI scale was .88 at the individual level and .93 at the team level (see Table 2).

CEO transformational leadership. A seven-item scale, from Carless, Waering, and Mann (2000), was used to measure, among the non-CEO members of the TMT, the CEO’s degree of TFL. An example of an item

is the following: “The CEO of the company, to whom I report, communicates a clear and positive vision of the future.” TMT members were asked to respond on a 5-point Likert scale ranging from 1 (“Rarely or never”) to 5 (“Frequently, if not always”). The scale had a Cronbach’s α of .62 at the individual level and .97 at the team level.

TMT behavioral integration. TMT behavioral integration was assessed with nine questions from Simsek, Veiga, Lubatkin, and Dino (2005) and concerned three dimensions: the degree of collaborative team behavior (e.g., “When a team member is busy, other team members often volunteer to help manage the workload.”); information exchange (e.g., “Quantity of ideas.”), and joint decision making (e.g., “Team members have a clear understanding of the joint problems and needs of other team

Table 2

Loadings of the five-factor confirmatory factor analysis.

Item	CEO emotional intelligence	TMT emotional intelligence	CEO transformational leadership style	TMT behavioral integration	Firm performance
1	.93				
2	.87				
3	.80				
4	.80				
5	.76				
6	.83				
7	.77				
8	.74				
9	.87				
10	.81				
11	.85				
12	.89				
13	.60				
14	.81				
15	.84				
16	.68				
17		.51			
18		.83			
19		.70			
20		.72			
21		.65			
22		.81			
23		.77			
24		.88			
25		.90			
26		.66			
27		.90			
28		.81			
29		.74			
30		.73			
31		.83			
32		.81			
33			.94		
34			.91		
35			.83		
36			.92		
37			.91		
38			.82		
39			.96		
40				.81	
41				.63	
42				.65	
43				.75	
44				.72	
45				.80	
46				.68	
47				.71	
48				.75	
49					.92
50					.95
51					.80
52					.96
53					.86

Note: All items are significant at $p < .001$.

members.”). Six items were scored on a 5-point Likert scale ranging from 1 (“Strongly disagree”) to 5 (“Strongly agree”). TMT members were asked to respond based on essential business decisions from the past two years. The scale had a Cronbach’s α of .88 at the individual level and .91 at the team level.

Firm performance. Firm performance researchers have shown that profitability is the dominant performance indicator in most company contexts (Beck, Prügler, & Walter, 2020; Dinh et al., 2014; Dinh & Lord, 2012; Jensen et al., 2020). We used two indicators, the return on assets (ROA) (Chatterjee & Hambrick, 2007; McDonald & Westphal, 2010; Nadkarni & Herrmann, 2010) and the perceived profitability by the CEO. ROA is an indicator of the firm’s profitability relative to its total assets (total liabilities + total equity). It is calculated by dividing net profit by total assets. We used ROA data from two business periods to reduce biases caused by single quarter effects. Additionally, the CEO’s perception of firm profitability was measured with a scale by Garg, Walters, and Priem (2003). The CEOs rated four items (e.g., “Average sales growth” and “Overall performance”) in comparison to their direct competitors on a 5-point Likert scale from 1 (“far worse”) to 5 (“far better”). Dess and Robinson (1984) and Robinson and Pearce (1988) found this perceptual measure to be highly correlated with objective firm performance. In our sample, the correlation was .79 ($p < .01$). Both perceived and objective measures were weighted equally. The Cronbach’s α of this scale was .83.

Control variables. We did not only control for the number of employees but also for the age of the company. Both factors are well known to have an influence on family-firm leadership style and TMT aspects (Vallejo, 2009). They were included when testing the entire model regarding the relationships between the CEO TFL, TMT behavioral integration, their degree of EI and firm performance.

3.3. Data analysis

Before starting the data analysis, the TMT survey data was paired with the CEO survey data. To guarantee anonymity, the pairing was carried out using numerical codes known only to the researchers. The next step in the data analysis was to aggregate the individual TMT ratings on CEO TFL, CEO EI, TMT EI, and TMT behavioral integration. For CEO EI we used CEO self-assessment as a secondary source. Bliese (2000) recommended the following procedure. First, calculate the intra-class correlations (ICC1 and ICC2) to test whether the ratings are sufficiently similar within the groups. While ICC1 measures within-group consensus, ICC2 reports the reliability of a group mean of aggregated individual scores. Bliese (2000) suggests a value of about .20 for the ICC1; LeBreton and Senter (2007) suggest a minimum of .08. In this study, the ICC1 values were .19 for CEO TFL, .25 for CEO EI, .23 for TMT EI, and .27 for TMT behavioral integration. Ostroff and Schmitt (1993) suggest ICC2 should have a value of .70 or more. The ICC2 values were .62 for CEO TFL, .88 for CEO EI, .72 for TMT EI, and .88 for TMT behavioral integration. Within-group inter-rater reliabilities (r_{WG}) should ideally score higher than .70 (James, Demaree, & Wolf, 1984). The values were .89 for CEO TFL, .91 for CEO EI, .89 for TMT EI, and .90 for TMT behavioral integration.

Because our research had a cross-sectional survey design, the degree of common-method variance had to be checked. To test whether common-method variance in the present study was a problem, we performed a confirmatory factor analysis with only one factor (Lindell & Whitney, 2001). When this factor explains more than 50% of data variance, common-method bias is likely to occur (Podsakoff & Organ, 1986). We found that the single factor explained only 32% of the variance. We also conducted the common latent factor test for common-method bias (Chang, van Witteloostuijn, & Eden, 2010; Podsakoff et al., 2003; Williams, Cote, & Buckley, 1989) to examine potential false relationships between variables. The difference between the standardized estimates with and without the common latent factor ranged between .069 and .001. We can therefore conclude that

common-method bias was not a major problem.

To test the hypotheses we used latent variables based on aggregated item scores and we controlled the relationships for firm size and age. The hypothesized model of the present study indicates a moderated mediation model. We employed structural equation modeling, as suggested by Edwards and Lambert (2007). The measurement model was tested with the following indices: the goodness of fit index (GFI), the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the normed fit index (NFI) (Fan, Thompson, & Wang, 2009).

4. Results

Table 3 provides an overview of the means, standard deviations and correlations of the study’s main variables. We performed several Confirmatory Factor Analyses. In the first analysis, a two-factor model was tested in which all the CEO and TMT items were loaded on the first factor and the performance items on a second factor. The three-factor model comprised a CEO factor (CEO, TFL and CEO EI items), a TMT factor (TMT, EI and TMT behavioral integration items) and a firm performance factor. The five-factor model was based on the hypothesized model, extended with the control variables, forming the basis for the subsequent tests. We also tested all the models with either the perceived or the objective measure of firm performance; the results did not differ noticeably. Therefore, we used both of them equally weighted in one measure. Table 4 reports the best model fit for the five-factor model (GFI = 0.96; CFI = 0.99; RMSEA = 0.08; NFI = 0.98). Therefore, the five-factor model could be accepted (see, Fig. 2).

We also calculated composite reliability to consider the convergent validity and reliability of our measures (Anderson & Gerbing, 1988; Hair, Black, Babin, & Anderson, 2014). Each measure was in excess of the recommended threshold of .70, indicating the internal consistency of our variables (Baumgartner & Homburg, 1996; Fan et al., 2009). The average variance derived for each construct also exceeded the 0.50 threshold. Moreover, the square root of average variance derived was higher than the interconstruct correlation for each measure showing discriminant validity (Hair et al., 2014).

H1 stated there is a direct relationship between CEO TFL and firm performance: $\beta = 0.13$, $p < .01$. Therefore, H1 was supported. The first mediation model, with TMT behavioral integration as the mediator between CEO TFL and firm performance, tested H2. TMT behavioral integration was significantly associated with both CEO TFL ($\beta = 0.38$, $p < .01$) and firm performance, controlled for by CEO TFL ($\beta = 0.26$, $p < .01$). Therefore, H2 was supported. H3 and H4 regard the role of CEO EI in this model. H3 was also supported by our data as CEO EI was significantly associated with CEO TFL style ($\beta = 0.46$, $p < .001$). H4 was also supported as the CEO EI had a significant relationship with TMT EI ($\beta = 0.39$, $p < .01$). H5, which predicted a significant relationship between CEO TFL and TMT behavioral integration, moderated by TMT EI, was supported as well. The results also indicate that the relationship between CEO TFL and TMT behavioral integration is stronger when TMT members are highly emotionally intelligent ($\beta = .28$, $p < .01$). Thus, the relationship between CEO TFL and firm performance is indeed mediated by TMT behavioral integration and moderated by TMT EI.

Post-hoc analyses examined the hypothesized model without both EI variables and it held with significant path coefficients. However, the EI variables appeared critical in the hypothesized overall model (Fig. 2): We coded CEO EI and TMT EI as groups of low, medium and high EI, based on their means and standard deviations (Table 3) (Aiken & West, 1991). The analysis revealed significant mean differences ($p < .001$) between the core variables, illustrated in Tables 5 and 6. As an example, the difference between the CEO TFL mean of the high CEO EI group and the medium CEO EI group is .94. Similar results are obtained with the TMT EI variable.

Table 3
Descriptive statistics and correlations among the key variables.

Variables	M	SD	1	2	3	4	5	6
1. CEO emotional intelligence	4.34	0.83						
2. TMT emotional intelligence	4.58	0.73	.90**					
3. CEO TFL	3.57	0.89	.86**	.77**				
4. TMT behavioral integration	3.32	0.80	.75**	.60**	.84**			
5. Firm performance	3.52	0.79	.63**	.52**	.70**	.69**		
<i>Control variables</i>								
6. Firm age	54.19	21.01	.24*	.08	.18	.23	.09	
7. Number of employees	1286.53	2357.27	.63**	.64**	.46**	.31**	.34**	.22

Note: *p < .05, and **p < .01.

Table 4
Model fit indices.

Model comparison	χ^2	df	GFI	CFI	RMSEA	NFI
Two-factor model	524	2	.55	.41	.33	.39
Three-factor model	358	4	.78	.77	.23	.80
Five-factor model	180	5	.96	.99	.08	.98

Notes: GFI, goodness of fit index; CFI, comparative fit index; RMSEA, root mean square error of approximation; NFI, normed fit index; n = 72.

5. Discussion

This study examined the links between emotional intelligence (EI) and transformational leadership (TFL) among two actors of family firm upper echelons. It is shown that TMT behavioral integration mediates between CEO TFL and firm performance, and that CEO EI is directly related to CEO TFL and indirectly to TMT behavioral integration. Moreover, TMT EI is found to moderate the association between CEO TFL and TMT behavioral integration. The hypothesized overall model (Fig. 1) is supported (Fig. 2). This yields evidence for the role of EI among CEOs and TMTs in reaching high overall performance in family firms. Hence we substantiate the role of CEO TFL in family firms as it is found to have a direct and indirect association – via TMT behavioral integration – with firm performance. TMT behavioral integration is not only found to be of importance for family-firm performance, it is suggested here to be enhanced through CEO TFL. Second, we establish the related role of EI in executing leadership in family firms, something that recruiting practitioners and various theoreticians have heretofore typically underestimated (Keijo & Jolkkonen, 2019a,b). The results suggest that if both CEOs and their TMT members engage in their work with a high level of EI, the entire company benefits: (1) emotionally intelligent CEOs are more likely to show TFL; and, (2) an emotionally intelligent TMT strengthens the relationship between CEO TFL and TMT behavioral integration. Based on this study’s results, one may argue that EI may act as crucial glue within the CEO-TMT dynamics. EI does not change the

nature of emotionally-loaded situations but clarifies or streamlines the interaction processes among CEO and TMT members which is found associated with high firm performance.

Based on this study’s results we suggest the following theoretical implications. Given their unique status as owners and managers, family-firm CEOs tend to be fairly emotional and not interested in sharing their power (Neffe et al., 2020). Seo and Barrett (2007) suggested that this behavior might be harmful to the company. Cruz, Gómez-Mejía, and Becerra (2010) have shown though that as the benevolence of the TMTs towards CEO behavior increases, CEOs are more likely to share their power and knowledge. This kind of distribution of power is known to have a positive effect on family firm effectiveness (Bee & Neubaum, 2014). EI on both sides of the top-managerial spectrum (i.e., CEO and TMT) may be a foundation for generating and perceiving such benevolence, building trust, and becoming more effective top managers of the family firm.

Our results and insights may enrich the upper echelon theory because they can explain top-managerial influences on the firm’s goals and stakeholders (Hambrick & Mason, 1984). According to the upper echelon theory, the effects of groups, such as an entire owning family, may be even greater than the effect of a single individual (as e.g., the CEO) (Lo & Fu, 2016). Prior research has already pointed to the harmful effects of unbalanced emotions within the owning family (e.g., McKee, Madden, Kellermanns, & Eddleston, 2014; Wang et al., 2016). Emotions of family members can be regarded as spoilers of family-firm performance (e.g., Craig & Newbert, 2020; Shepherd, 2016). By better understanding how the emotions of other upper-echelon actors translate and relate to their own and intertwined behaviors, we may better predict the performance of family-based firms (Zellweger, Kellermanns, Chrisman, & Chua, 2012).

Since TMT members are often not only in close contact with the (family-based) CEO, but also with other members of the business family, our findings indicate that TMT EI may also prevent emotional issues or conflicts; a TMT (or members thereof) may even play a mediator role between a CEO and (some of) his or her family members. Thus, an

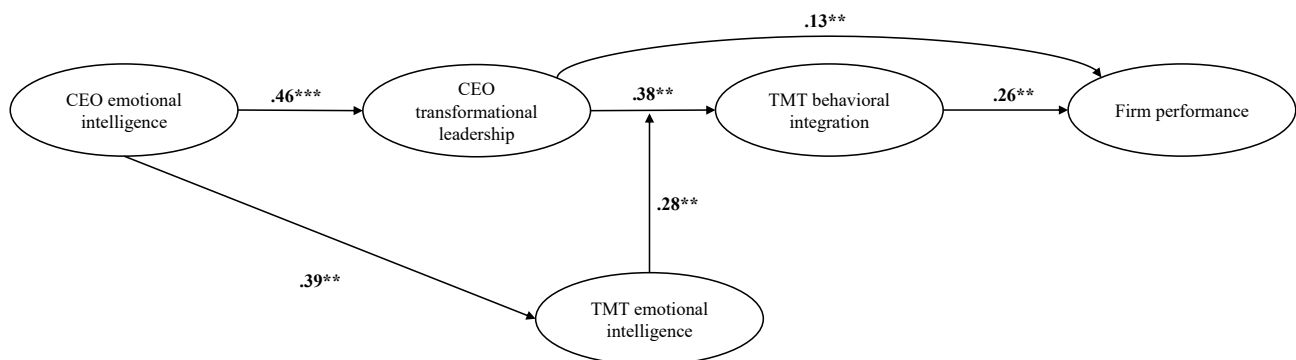


Fig. 2. The supported moderated mediation model with standardized path coefficients
Notes: **p < .01 and ***p < .001.

Table 5
CEO EI post-hoc test for core variables.

Variable	CEO EI (A)	CEO EI (B)	Mean difference (A-B)	SD	95% CI	
					Lower bound	Upper bound
TMT EI	Low	Medium	-.78*	.14	-1.16	-.41
		High	-1.85*	.17	-2.27	-1.44
	Medium	Low	.78*	.14	.41	1.16
		High	-1.07*	.12	-1.36	-.78
	High	Low	1.85*	.17	1.44	2.27
		Medium	1.07*	.12	.78	1.36
CEO TFL	Low	Medium	-.96*	.17	-1.37	-.54
		High	-1.90*	.12	-2.22	-1.57
	Medium	Low	.96*	.17	.54	1.37
		High	-.94*	.13	-1.26	-.61
	High	Low	1.90*	.12	1.57	2.22
		Medium	.94*	.13	.61	1.26
TMT behavioral integration	Low	Medium	-1.13*	.16	-1.54	-.72
		High	-1.75*	.16	-2.15	-1.36
	Medium	Low	1.13*	.16	.72	1.54
		High	-.62*	.14	-.96	-.29
	High	Low	1.75*	.16	1.36	2.15
		Medium	.62*	.14	.29	.96
Firm performance	Low	Medium	-1.01*	.28	-1.74	-.27
		High	-1.39*	.26	-2.10	-.68
	Medium	Low	1.01*	.28	.27	1.74
		High	-.383*	.12	-.66	-.10
	High	Low	1.39*	.26	.68	2.10
		Medium	.38*	.12	.10	.66

Notes: Games-Howell test; * $p < .05$; CI = confidence interval.

Table 6
TMT EI post-hoc test for core variables.

Variable	TMT EI (A)	TMT EI (B)	Mean differences (A-B)	SD	95% CI	
					Lower bound	Upper bound
CEO EI	Low	Medium	-1.07*	.11	-1.32	-.81
		High	-2.17*	.08	-2.36	-1.98
	Medium	Low	1.07*	.11	.81	1.32
		High	-1.10*	.12	-1.38	-.82
	High	Low	2.17*	.08	1.98	2.36
		Medium	1.10*	.12	.82	1.38
CEO TFL	Low	Medium	-.88*	.19	-1.36	-.40
		High	-1.84*	.15	-2.27	-1.40
	Medium	Low	.88*	.19	.40	1.36
		High	-.96*	.13	-1.27	-.65
	High	Low	1.84*	.15	1.40	2.27
		Medium	.96*	.13	.65	1.27
TMT behavioral integration	Low	Medium	-1.11*	.20	-1.63	-.58
		High	-1.45*	.18	-1.96	-.94
	Medium	Low	1.11*	.20	.58	1.63
		High	-.34*	.13	-.67	-.02
	High	Low	1.45*	.18	.94	1.96
		Medium	.34*	.13	.02	.67
Firm performance	Low	Medium	-.94	.36	-1.97	.09
		High	-.91	.39	-1.97	.15
	Medium	Low	.94	.36	-.09	1.97
		High	.03	.20	-.48	.54
	High	Low	.91	.39	-.15	1.97
		Medium	-.03	.20	-.54	.48

Notes: Games-Howell test; * $p < .05$; CI = confidence interval.

emotionally astute or mature TMT can protect the family firm from potentially harmful influences arising from (members of) the owning family. Even though not formally included in top-management activities, the role of non-CEO family members in family type of firms might then be ‘cushioned’ by emotionally intelligent top managerial executives (see, Neffe et al., 2020).

Although there is an increased interest in leader EI among academic and practitioner communities, prior empirical studies have hardly focused on the effects of EI at the top of family firms. This study has scratched the surface of the role of EI in family firm performance (see,

Wilderom et al., 2015). The relatively large number of studies and anecdotes containing conflictual issues among the co-owners of firms may attest to this point. Some practical implications of the findings are sketched in the below.

5.1. Implications for practice

This present study of how the EI of family-firm CEOs as well as their TMTs is related to firm performance, offers several practical contributions. As expected, CEO EI is positively associated with TMT EI and CEO

TFL, and TMT EI moderates between CEO TFL and TMT behavioral integration. These associations highlight an important self-developmental insight for family-firm CEOs: their own EI and associated behavioral style might affect their top-managerial team and their firm's performantive capabilities. Grant, Kinman, and Alexander (2014) showed how, through training, one's skill level in EI can be significantly enhanced. This means that a well-designed EI assessment and (if needed, subsequent) training in EI (as well as in TFL) could be recommended as part of preparing a family member to assume responsibility for the firm as CEO.

There is a growing parallel body of literature connecting EI with self-awareness (Albrecht, 2009; Caldwell & Hayes, 2016; Goleman, 1995). Neffe et al. (2020), for instance, found that CEOs who belong to the owning family, compared to those who are not, show less self-awareness about their own leadership behavior. Seen through that lens, many family firm CEOs are likely to need EI and associated leadership style training in facing the (typically emotionally-loaded) family situations which might otherwise harm their firm. The results of the present study indicate that an emotionally intelligent TMT may support the CEO to adequately resolve emotional issues to the benefit of the entire firm. In recruiting and selecting non-family members of a family-firm TMTs, the results also indicate that they must be emotionally intelligent or be trained so that TMT behavioral integration ensues.

Young/junior family members who inherit or take over an executive position from their family-based predecessor often find a TMT that fits the needs and leadership style of the previous m/patriarch. If a new generation CEO scores high on both EI and TFL, he or she is likely to be in need of new TMT members who are not only receptive to their style but are emotionally intelligent as well. Moreover, given that it is well known and documented that emotional matters of family members can impede high family firm performance, it is perhaps not surprising that a family-based CEO of a high performing firm must score highly on EI so that he or she can cushion the potentially erratic emotional effects emanating from family affairs among the firm's owners. It transpires that a CEO may not do this well alone. He or she may need the helping hand of other appointed members at the strategic apex; when they are also emotionally intelligent, they can work well among themselves. In other words, not only the EI or TFL style of a CEO can assure the desired family-firm performance effect, but the CEO would need top-managerial partners with a high level of EI who collaborate well under their leadership to optimize firm performance. Lower-level employees work, of course, much better if the emotions of their top bosses are well-balanced and well-linked to the corporate values, so that the corporate priorities are not erratic or disruptive. Other members of a firm's key stakeholders may also feel more comfortable if approached in an emotionally-balanced and professional way by the firm's management. If TMTs (like their CEOs) are high on EI, approaching lower-level employees can be more effectively cascaded across the organization and beyond (i.e., clients, suppliers, or other stakeholder groups). In general, family involvement in the top management of family firms might indirectly affect the performance of family firms for good or ill. Hence one may argue that a family-based CEO who scores high on EI and TFL style is likely to transfer the essence of what the company stands for to his or her top-management team (TMT). Such a team may then function better due to more behavioral integration which in turn contributes to the building of valuable organizational capital that translates into high firm performance.

Since most German family firms are still 100% owned by the family, and one or more family member tends to take an active leadership role as the CEO (Klein, 2000), we believe that the practical implications drawn from this study are applicable to the majority of German family firms. Its findings may thus be used as guidelines for family-firm owners and their advisors when recruiting or developing CEOs and TMT members. Thus, the supported model yields consistent insights for improving the productive workflow among CEOs and TMT members in German family firms.

5.2. Strengths, limitations and further research

This cross-sectional field study, in which the moderated-mediation model is supported, used two surveys (one for the CEO and the other for all TMT members), thereby minimizing the impact of common-source bias. The snowball sampling process aims a spread of firms and contains a variety of industries. Nevertheless, the results should be considered in light of its limitations.

Family firm top leadership is measured through a CEO's EI and transformational leadership style. Yet, firm leadership is a multi-faceted phenomenon, moderated and mediated by several factors (Dinh et al., 2014). Other known variables which are known to impact firm performance must be paired in future research to the variables examined herein. Future research in this realm may also analyze the relative impact of the different (subsets of) behavioral TFL dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass & Avolio, 1997) as well as those of the four EI dimensions: appraisal of one's own and others' emotions, use of emotions and regulation of emotions (Wong & Law, 2002). Moreover, the consistency of response to the self-report TFL questionnaire indicated some variability in reporting. This variability might be explained by the age range and related potential differences in leadership behavior of our CEOs. More senior CEOs might assess the importance and effectiveness of TFL differently compared to more junior CEOs. We also had a wide range of organizational sizes (as measured by the number of employees). As the impact of transformational leadership may also vary by the situational contexts, and TFL might be more effective when applied to mid-sized firms rather than to large enterprises, further research on specific organizational sizes is recommended.

In terms of prior family-firm research on the TFL leadership style, three out of the four leadership dimensions have been included: idealized influence (e.g., Vallejo, 2009), inspirational motivation (e.g., Menges, Vogel & Bruch, 2011), and intellectual stimulation (e.g., Bernhard & O'Driscoll, 2011) and these were found to be quite relevant (Fries et al., 2020). In this study we aimed to test the full notion of both emotional intelligence and TFL of the top leaders in our sample. We strongly encourage future research into the different dimensions of both emotional intelligence and especially transformational leadership's 'individual consideration' – as the most overt emotional dimension of TFL – to gain more knowledge about the kinds of emotional-intelligent processes or behaviors occurring among top managers within and beyond the boardrooms of family firms.

Another limitation of the study is that EI was measured at the same time as the leadership style. However, we used two sources for CEO EI: TMT ratings and CEO self-assessment. Statistically, we limited, but did not eliminate, potential common-method variance in the link between CEO TFL and EI.

Another issue pertains to the possibility of reversed causality. In the hypotheses, we argue that leadership style influences TMT EI and family-firm performance. However, it is possible that reverse causal relationships are at play. For example, a high level of TMT EI may affect CEO EI, or a lower level of TMT EI induces those members to report that their CEO acts with a lower level of transformational leadership. A longitudinal examination of the relationships among the key variables of both top-managerial actors is therefore highly recommended. Such research may even show that the TMT of a family firm may compensate for certain weaknesses on the part of the family-firm CEO as suggested by the findings of Neffe et al. (2020).

Since the majority of our sampled CEOs were male and the research acknowledged that male CEOs may lead differently compared to female CEOs (Fitzsimmons, Callan, & Paulsen, 2014; Glass & Cook, 2016; Tyrowicz, Terjesen, & Mazurek, 2020), particularly in terms of dealing with their own and others' emotions, we believe that further studies of gender issues at the top of family firms, in conjunction with the EI and leadership style factors dealt with here, could be of added value for many family-firm practitioners.

Additionally, the multiplier function of TMT members in relation to employees at the next, lower hierarchical level is an interesting new line of research; such family-firm research can rely – just as here – on a wealth of prior Organizational Behavior studies carried out within other types of organizations. Furthermore, empirically comparing family-with matching non-family firms would be another fruitful direction for future research. Combining this study's use of the upper echelon theory, and the fact that its originators (Hambrick and Mason (1984), suggested the examination of cross-cultural differences, we highly recommend efforts to cross-culturally replicate the results obtained here which are due largely to the contagious nature of human emotions in and around organizations. We also suggest, more generally, the use of our model for comparing top-leadership dynamics in family firms with those in non-family firms. A long time ago, Adam Smith argued that “while self-interest is indeed a virtuous motive for action, it should always be tempered by a concern for others” (Craig & Newbert, 2020, p. 2 in press). The study reported herein suggests that both family and non-family based executives with high emotional intelligence can cushion or avert any overly self-interest effects of other members of the owning family thereby ensuring high family-firm performance.

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