

Family enrichment and women entrepreneurial success: the mediating effect of family interference

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Abstract:

Managing work and family is a topic of continual interest. Drawing on work-family interface (WFI) literatures, we test a model linking family-to-business enrichment and family-to-business interference, directly and indirectly, to the entrepreneurial success of women-owned businesses. We consider two types of enrichment: family instrumental (financial) support and family affective (moral) support. The interference aspect of WFI is depicted by women entrepreneurs' gender-related personal problems. Due to the non-linear nature of our model (logit), we apply for the first time in the entrepreneurship literature, the Karlson-Holm-Breen (KHB) method, which has recently been developed for testing mediation in such models. In a sample of female entrepreneurs in a stable economic environment, Austria, we found that the interference dimension mediates the relationship between the enrichment components and entrepreneurial success. Specifically, personal problems have a negative effect when family financial support is present and a positive effect when family moral support is experienced. Implications and future research are discussed.

Keywords: Women entrepreneurs | Family businesses | Family interference | KHB method | Mediation analysis | Austria

Article:

Introduction

Much has been written in the popular press as well as in academic journals on the lives of women entrepreneurs being intertwined between work and family (Loscocco and Bird 2012; Santos et al. 2018; Shelton 2006). The Work-Family Interface (WFI) framework illustrates the relationship between these two realms (Greenhaus and Allen 2011; Jennings and McDougald 2007). The WFI context is built across two dimensions: enrichment and interference

(Hsu et al. 2016). Enrichment is defined as a positive connection between the business and family domains, while interference is defined as a conflict between the two areas (Hsu et al. 2016). These two constructs go from business-to-family or family-to-business (Greenhaus and Powell 2006; Schjoedt 2013) so there are four distinct elements that are formed (Greenhaus and Allen 2011; Hsu et al. 2016).

In our study, we use the *business* family interface (BFI) term (Hsu et al. 2016) to highlight the interactive nature of the entrepreneur's intertwined life between the business-to-family and family-to-business worlds. For women, the interactive nature of the framework fits particularly well as the model acknowledges both the business and family environments and the challenges that are faced trying to balance the two (Hsu et al. 2016; Loscocco and Bird 2012). The business-family imperative is particularly integral in entrepreneurship process models that include performance outcomes (Jennings and McDougald 2007). Therefore, in our study, we examine dimensions of BFI domain in relation to entrepreneurial success of women business-owners. This outcome construct is based on two criteria: business income (financial performance) and years in business (business longevity and survival). We consider two types of enrichment: family instrumental (financial) support and family affective (moral) support. The interference aspect of BFI is depicted by women entrepreneurs' gender-related personal problems.

It is important to recognize that only a few studies look at the issue of work/business and family balance, particularly for women entrepreneurs. Most of the studies that have been conducted do not differentiate their samples by gender (See Rehman and Roomi 2012). In contrast, our study examines the BFI of women entrepreneurs and their entrepreneurial successes, thus making a unique contribution to the research domain. Our study is important for identifying what elements need to be modified to improve women entrepreneurs' chances of success.

The WFI concept is sometimes melded with other perspectives, including the family embeddedness (Aldrich and Cliff 2003) and/or the 5 M model (Brush et al. 2009). The 5 M model emphasizes the unique aspects of women's entrepreneurship. The two WFI components, enrichment and interference, have been studied either separately or together. In the case of separate dimensions, Eddleston and Powell (2012), and Powell and Eddleston (2013) examined work and family realms in terms of their positive synergy, whereas Jennings and McDougald (2007), and Shelton (2006), focused on the negative consequences between the two components. Hsu et al. (2016) looked at both components simultaneously as predictors of entrepreneurial exit intentions.

Researchers have advocated for combining the two dimensions into one overall model. Hsu et al. (2016), Jennings and McDougald (2007), and Ohlott et al. (2004) suggest that the dimensions may be perceived as competing positively or negatively. Both processes may be operating at the same time, especially for women entrepreneurs who have multiple roles in both the business and family life (Cesaroni et al. 2018; Ruderman et al. 2002; Rothbard 2001). We adopt this strategy in our study.

Additionally, the WFI factor has had multiple roles in various studies. These include linking WFI to satisfaction levels concerning work-family balance (Eddleston and Powell 2012); as an explanation for exit intentions of entrepreneurs (Hsu et al. 2016); and to business performance

(Kellermanns and Eddleston 2004; Loscocco and Bird 2012; Powell and Eddleston 2013; Shelton 2006). Jennings and McDougald (2007), and Kirkwood and Tootell (2008), contend there is much theoretical work to be done in this area.

We assume that interference may mediate the relationships between the enrichment components and performance. Reis et al. (2007) strongly support the use of moderators and mediators in the analysis of complex relationships between various predictors (including conflict and other diversity constructs) and performance. The possibility of a mediating role in the business-family conflict is indirectly depicted in Shelton's (2006) conceptual model of new venture performance. In her model (Shelton 2006; Fig. 1, p. 289), work-family conflict is clearly positioned between work-family management strategies (i.e., external resources, such as family support, and internal family salience) and the well-being of the entrepreneur, followed by the venture performance construct. Although Shelton (2006) does not directly point to such a possibility, the work-family conflict might be considered in a mediating capacity. In her discussion, Shelton (2006) rather suggests that it is the work-family strategies that could be tested for their potential role as a mediator in a model explaining the performance of women-owned ventures. While we consider this suggestion valid and plausible, it should be tested in future research. In this study, we re-shuffle the two WFI components by placing them in a reverse role: work-family conflict may mediate between family support dimensions and the business outcome. Shelton's (2006) study is one of only a few in which mediation has been considered or explored within the WFI/performance framework. We also notice a potential for mediation analysis in the model of conflict in family firms proposed by Kellermanns and Eddleston (2004). A portion of this model links altruism in family firms, which can loosely be equated with family affective/moral support, with firm performance via relationship conflict. This construct could depict the WFI interference component, thus suggesting that the relationship conflict could serve as a mediator between the two variables. Although Kellermanns and Eddleston (2004) do not consider such mediation in their model, the above singled out path renders our mediation assumption plausible. Hsu et al. (2016) also propose to explore mediating effects among the WFI constructs and the outcome variable (in this case, entrepreneurs' exit strategies) as one future research direction. Finally, Loscocco and Bird (2012) show empirically that motivations for starting the business to balance work and family mediate the effects of woman-owned business on sales.

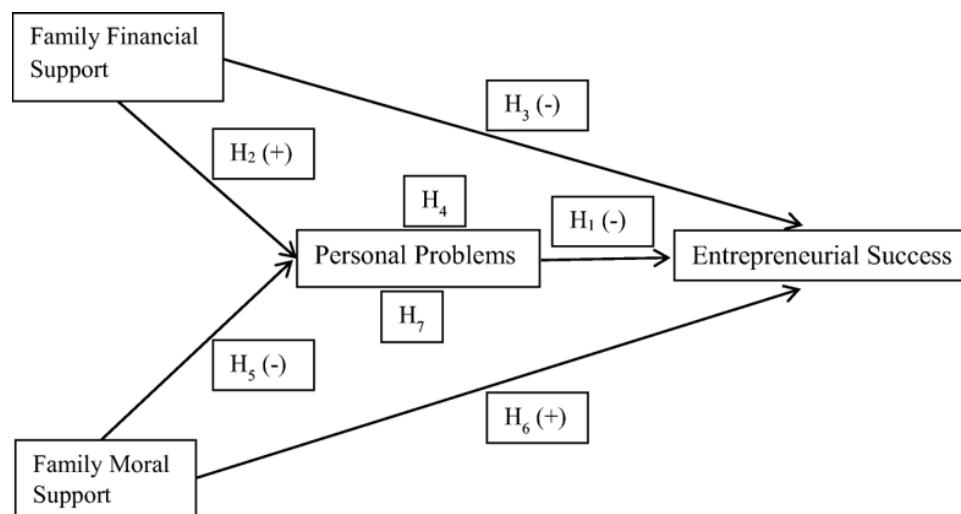


Fig. 1. Study design

In this study, we found support for the mediating effect of the interference dimension on the relationship between each of the two enrichment variables and entrepreneurial success. Due to the non-linear nature of our model (logit), we apply for the first time in the entrepreneurship literature, the KHB method (Karlson et al. 2012), which has recently been developed for testing mediation in such models.

The KHB method

Due to the non-linear (binary) nature of the dependent variable, the standard mediation procedure suggested, for example, by Baron and Kenny (1986) is not applicable (for extended discussion, see Connelly et al. 2016; Mood 2010). To measure mediation, one typically compares regression coefficients of the same variable across a series of models. In linear models, the difference in these coefficients is interpretable because the effect of the predictor variable on an outcome may be decomposed into two parts, the indirect and direct effect while their sum represents a total effect. These decomposition principles will not apply to non-linear models (Breen et al. 2013). This problem arises because non-linear models have what is known as a fixed variance and adding variables to the model can affect the estimated coefficients, even when the predictors are not related (Connelly et al. 2016). In these cases, the error variance may differ across the models and the total effect does not decompose into direct and indirect effects in the desired way (Breen et al. 2013). The size of coefficients for the same variables may differ simply because of the so-called rescaling of the model that takes place whenever the mediator variable has an independent effect on the dependent variable (Kohler et al. 2011). Several solutions have been proposed to handle the problem of comparing coefficients across nested models with categorical dependent variables (see Wooldridge 2010), however, none of them have gained sufficient support. Only recently, a method developed by Karlson et al. (2012), known as the KHB method (based on the acronyms of the authors' names), is being widely accepted among social science researchers as a more effective solution. KHB estimates the changes in the coefficients of a logit model that are the result of the aforementioned rescaling when new variables are introduced to the model. Thus, the KHB method allows to compare otherwise non-comparable coefficients across successive categorical regression models and that is why it can be used in such cases for mediation analysis. Specifically, the KHB method permits separation of changes in coefficients due to rescaling from changes due to the introduction of more variables in the model. In other words, the KHB method distinguishes the change in the coefficient that is caused by true mediation from the change that is due to rescaling. For this purpose, it calculates a correction factor that renders the mediated coefficient from the reduced model comparable to the one from the full model. Thus, the KHB approach is particularly attractive in studies where researchers want to understand the effects of mediating variables in non-linear models (Connelly et al. 2016).

While the KHB method is slowly gaining popularity among social sciences and economics, it is still unknown in the management area. To our knowledge, the current study is the first application of the KHB method in the entrepreneurship domain. The recently developed Stata *khb* module (StataCorp 2015) allows performing the required computations easily (Kohler et al. 2011).

We believe that this research provides an important contribution to the entrepreneurship literature.

Conceptual framework and hypotheses

As mentioned in the introduction, for women particularly, the business-family interface deals with both enrichment and interference dimensions on the individuals' family, personal, and business lives (Jennings and McDougald 2007; Powell and Eddleston 2013). The enhancement (Greenhaus and Parasuraman 1999) or enrichment (Rothbard 2001) perspective contrasts the conflict (Greenhaus and Beutell 1985) or depletion (Rothbard 2001) perspective on the interference side. The positive and negative implications between the family and business world are thus incorporated (Hsu et al. 2016).

This study investigates the entrepreneurial success dimension of women-owned businesses and tests its possible relationship with the selected BFI constructs. These dimensions of the BFI include family financial and moral support (enrichment), and gender-related personal problems (interference).

Effect of gender-related personal problems on entrepreneurial success

Researchers have concluded that personal problems that are gender-related affect women entrepreneurs' performance at their businesses (Baughn et al. 2006; Welsh et al. 2014a, 2014b). Oftentimes, these problems arise for women in particular from work-family conflicts (Eddleston and Powell 2012; Hsu et al. 2016; Jennings and McDougald 2007; Loscocco and Bird 2012; Parasuraman and Simmers 2001; Rothausen 2009; Shelton 2006). Three issues that are related have been identified in relation to work-family conflict – job spousal conflict, job-home responsibilities, and job-parent responsibilities (Kim and Ling 2001; Kirkwood and Tootell 2008). Overall, these three responsibilities are considered family-based that impact a woman entrepreneur's business (Jennings and Brush 2013; Jennings and McDougald 2007; Kim and Ling 2001; Kirkwood and Tootell 2008; Mathew 2010; McGowan et al. 2012; Ramadani 2015). The home-based responsibilities have a negative effect on entrepreneurial success by scaling back efforts by women entrepreneurs (Forson 2013; Jennings and McDougald 2007; Loscocco et al. 1991; Rehman and Roomi 2012; Schjoedt 2013). Childcare responsibilities more often fall on women than men (Sullivan and Meek 2012), which takes away precious time to launch and grow their businesses (Kevane and Wydick 2001; Rey-Marti et al. 2015). In their model of conflict in family firms, Kellermanns and Eddleston (2004) also propose that relationship conflict is negatively related to family firm performance.

According to Hsu et al. (2016), limited time to spend between work and family responsibilities leads to conflict and stress (Hilbrecht 2016; Jennings and McDougald 2007), reoccurring psychological strain-related issues, such as tension, anxiety, and mental and/or physical fatigue (Jennings and McDougald 2007; Parasuraman et al. 1996), and/or adjustment problems from one set of responsibilities to the other. Indirectly, entrepreneurial success is affected by work-family conflict through a lower level of well-being of the woman entrepreneur (Beutell 2007; Shelton 2006; Shepherd et al. 2009; Wu et al. 2010). Lower satisfaction is experienced with the

woman entrepreneur's job, marriage, and life (Kim and Ling 2001; Schjoedt 2013; Ufuk and Özgen 2001). In view of the above, we propose the following:

Hypothesis 1. The woman entrepreneur's personal problems are negatively related to entrepreneurial success.

Effect of family financial support on personal problems

Akehurst et al. (2012) found that women entrepreneurs more often get financial resources under less favorable conditions than males and so they more often fall back on their own savings or obtain loans from family members. Informal support includes family financial support (Hilbrecht 2016). Conflicts may arise more often or be more severe due to the family providing financial support to the entrepreneur, particularly where there is an overarching dominant family (Kammerlander et al. 2015). Outcomes can include damaged personal relationships (Chirico and Salvato 2008; Cunningham et al. 2016; Kellermanns and Eddleston 2004). The work-family conflict also increases when demands by the family go up (Eddleston and Powell 2012; Jennings and McDougald 2007; Parasuraman and Simmers 2001; Shelton 2006). Conflict avoidance instead of problem resolution often results from rivalries between family members when the family and business systems collide (Cunningham et al. 2016; Sorenson 1999). Therefore, we posit:

Hypothesis 2. Family financial support is positively related to the woman entrepreneur's personal problems.

Effect of family financial support on entrepreneurial success

New ventures need capital financing (Edelman et al. 2016). Greater family involvement results from family financial support in a women-owned business (Akehurst et al. 2012; Kim and Gao 2013). Business outcomes variance is affected by the mixing of resources between the family and the business accounts (Olson et al. 2003; Samara and Berbegal-Mirabent 2018; Stafford and Tews 2009). As a result, family members are more likely to exert control over business decisions when they assist in launching the business, in terms of financial help or other instrumental assistance, which in turn may affect the long-term performance of the woman-owned business (Allio 2004; Gomez-Mejia et al. 2007; Hatak et al. 2016; Kellermanns et al. 2012). In addition, family firm continuity may be impacted by other negative outcomes (Stavrou 1999). These may include stagnating strategic initiatives (Carnes and Ireland 2013; Finkelstein and Hambrick 1996), relying too heavily on business-as-usual practices (Koenig et al. 2013), or overcompensating family members for small contributions. Any of these consequences may lead to a family business environment that is closed, interdependent, and protective (Arregle et al. 2007; Pearson et al. 2008; Portes 1998).

Edelman et al. (2016) emphasize the dangers, especially for young, nascent entrepreneurs, of using financial resources of the family. This may have an impact on entrepreneurial intentions (Mwiya et al. 2018; Pérez-Macías et al. 2019). Negative effects of this strategy include relying on a convenient means of capitalization that can be demoralizing instead of capitalizing the venture by conventional means that would require more entrepreneurial efforts. This scenario

could occur for women entrepreneurs as well as male entrepreneurs. Additionally, family members who are involved in the business may expect and get perquisites and other privileges that reduce profitability (Cruz et al. 2012). While engaging family members does result in some non-economics benefits, such as socioemotional wealth (Gomez-Mejia et al. 2007, 2011; Hernández-Perlines et al. 2019), and may increase sales, it also may decrease the overall profitability due to the unproductive use of resources. Oftentimes, in these scenarios conflict occurs that has a negative impact on business performance (Arregle et al. 2007; Kammerlander et al. 2015; Morck and Yeung 2003). Growth opportunities may be reduced by over relying on family connections for business leads (Howorth et al. 2010; Prasad et al. 2013). Naldi et al. (2007) and Randerson et al. (2015) found that the need to protect family assets leads to the family becoming less entrepreneurial and risk-averse. Family assets carry emotional ties that when invested in the woman entrepreneur's venture, can lead to less cohesiveness and undermine business performance (Hatak et al. 2016). It has been found that usually businesses are more successful when the owners do not involve the family in the business (Carter and Rosa 1998; Rey-Marti et al. 2015) or when negotiation takes place between the family and business demands (Neneh 2018; Xheneti et al. 2019). Thus,

Hypothesis 3. Family financial support is negatively related to entrepreneurial success.

Mediating effect of personal problems on the relationship between family financial support and entrepreneurial success

Taken together, our previous arguments suggest that the effect of family financial support on entrepreneurial success may occur through the woman entrepreneur's gender-related personal problems. Specifically, such problems may magnify an already negative effect of family financial support on entrepreneurial success. That is, the family financial support amplifies personal problems, and in turn, these problems negatively affect outcomes. When experiencing gender-related personal problems, the woman entrepreneur may be forced to seek family help. Strong family involvement stipulated by the provision, for example, of the financial support will further strengthen family ties, thus leading the woman entrepreneur toward looking for solutions only within the family instead of considering outside social contacts (Alesina and Giuliano 2013; Daniele and Geys 2016; Ermisch and Gambetta 2010). Subsequently, such reduced access to external opportunities may impede the economic progress of her firm (Daniele and Geys 2016). Research also suggests that work-family conflict can impact on job, family, social support, and life satisfaction (Foley and Powell 1997; French et al. 2018; Kirkwood and Tootell 2008; Padovez-Cualheta et al. 2019) and, in turn, performance (Shelton 2006). Hence, we expect that personal problems negatively mediate the relationship between family financial support and entrepreneurial success.

Hypothesis 4. The relationship between family financial support and entrepreneurial success is mediated by the woman entrepreneur's personal problems.

Effect of family moral support on personal problems

Contrary to the family financial support, moral support emanating from the family will have a soothing effect on the woman entrepreneur's personal problems. Family moral support is

emotional support (i.e., not including financing). Such support may be crucial for maintaining business momentum during particularly overwhelming business periods (Hilbrecht 2016). Kellermanns and Eddleston (2004) refer to such support in family firms as altruism which “encourages family members to be considerate of each other and fosters loyalty and commitment to a firm’s leadership” (p. 215). They further propose that family altruism is negatively related to relationship conflict. Because family moral support is only effective, intangible, the family is less curious or interested in intervening in the woman’s business. They simply support her emotionally. Family moral support also increases interpersonal trust within the family (Daniele and Geys 2016) which may alleviate somewhat the woman entrepreneur’s personal problems. Thus,

Hypothesis 5. Family moral support is negatively related to the woman entrepreneur’s personal problems.

Effect of family moral support on entrepreneurial success

Family support from the family toward the business owner is an important component of the family system (Chrisman et al. 2003; Zaefarian et al. 2016). It is an important element for business success (Akehurst et al. 2012). Emotional support of entrepreneurs has been well-recognized in the literature as important (Hoang and Antoncic 2003; Liao and Welsch 2005; Prasad et al. 2013). More than their male counterparts, women entrepreneurs benefit from family-to-business affective support (Powell and Eddleston 2013). Moral support can take many forms, including encouragement, understanding, attention, and the overall positive attitude. These all transfer positively to the business environment (Eddleston and Powell 2012; Powell and Eddleston 2013) and contribute to the cohesiveness of the family (Edelman et al. 2016). This emotional support by family members can take the form of encouragement regarding a woman deciding to be an entrepreneur or positive psychological bolstering when dealing with business problems (Eddleston and Powell 2012). As a result, women are more able to respond positively to challenges that affect overall business performance (Baron 2008). Entrepreneurial persistence and risk-taking increases when women entrepreneurs experience family emotional support and this could have a positive impact on business success (Bruderl and Preisendorfer 1998; Prasad et al. 2013). At the same time, higher expectations for business performance may result from increased entrepreneurial self-efficacy based on family moral support thereby increasing the probability of firm growth (Prasad et al. 2013). Emotional wellbeing may increase from positive emotions and this also may result in higher firm performance (Frederickson and Joiner 2002; Shelton 2006). Consequently, a fundamental element for business success is family (Akehurst et al. 2012; Singh et al. 2001). Business growth opportunities increase when family moral support is present and this gives a woman entrepreneur confidence that she can successfully manage her family and work responsibilities simultaneously (Welsh et al. 2017). Therefore,

Hypothesis 6. Family moral support is positively related to entrepreneurial success.

Mediating effect of personal problems on the relationship between family moral support and entrepreneurial success

In cases when the woman entrepreneur can count on family moral support, her personal problems may actually have a positive effect on entrepreneurial success. The woman who feels moral, but not intrusive, support from her family in the form of cohesiveness (Edelman et al. 2016), may have more strength to handle any other problems within the family-business sphere. Particularly, she may be more efficient at multitasking, experienced and acquired at home, and then be able to transfer this knowledge into the business domain with greater confidence. Jennings and McDougald (2007) hypothesize that such conflict may indeed be beneficial as it motivates entrepreneurs to become better organized and more apt to delegate tasks to others, thereby laying the foundation for business growth. Schjoedt (2013) also points to research that has shown that having multiple roles may influence outcomes positively (Marks 1977; Sieber 1974) as they can improve women's managerial skills. This leads to better performance (Ruderman et al. 2002). Furthermore, the woman's perception that she can handle her personal problems thanks, in part, to family moral support, may give her the feeling of higher self-esteem and overall satisfaction with life (Barnett and Baruch 1985; Barnett and Marshall 1992; Roskies and Carrier 1994). This leads to an "optimistic bias" (Busenitz and Barney 1997; Powell and Eddleston 2013; Simon et al. 2000), which may lead to better outcomes. We also mentioned earlier in the introduction a potential for mediation analysis found in the model of conflict in family firms proposed by Kellermanns and Eddleston (2004). Part of this model does connect altruism in family firms with firm performance through relationship conflict, thus suggesting a mediation effect. In accordance with this set of arguments, and preceding hypotheses, we propose that personal problems positively mediate the relationship between family moral support and entrepreneurial success.

Hypothesis 7. The relationship between family moral support and entrepreneurial success is mediated by the woman entrepreneur's personal problems.

Figure 1 presents the overall conceptual model.

Method

Sample and data collection

For this study, we adopted a self-administered questionnaire originally developed by Hisrich and Brush (1982, 1984, 1985), with subsequent modifications (Hisrich et al. 2006; Lerner et al. 1997). The questionnaire included a mixture of dichotomous, multiple choice, open-ended, and rank-order items to assess the nature of women entrepreneurs in Austria. The study was approved by the Institutional Review Board (IRB) or institutional equivalent by both researchers involved in the study that insures ethical standards of conducting research.

This country is typically assigned to the Germanic cluster of countries, including Germany, the Netherlands, Austria, and Switzerland (Gupta et al. 2011; House et al. 2004). In the Germanic cultures, the society itself is enmeshed in order, structure, and rules, and operates like a well-oiled machine (Gupta and Hanges 2004; Gupta et al. 2011). The boundaries between the family and the business are regulated, but only moderately. Family members are willing to make sacrifices for the success of the business. In the Germanic cultures, the family is emphasized as a more effective way than the business to manage conflict resolution. Women play a moderately

important role in Germanic family businesses. The most important roles of the spouse in the family business are that of confidant and adviser (Gupta et al. 2011).

Data collection took place from March to August of 2015. A hundred and ninety-seven questionnaires were distributed by mail and/or email to companies with women entrepreneurs known to the researchers from personal contacts in Austria. A majority of firms (186 or 94%) responded to the survey. Of those, more than half (99) were finished and usable for a 53% completion rate. In comparison, Lerner et al. (1997) reported 40% of usable responses.

More than half (54%) of respondents are below 40 years of age [age was measured as an ordinal variable with the following categories: 1 = less than 20 years of age, 2 = 20–29, 3 = 30–39, 4 = 40–49, 5 = 50–59, and 6 = 60+; mean = 3.41; std. = 1.233] and have at least a college degree (63%) [education was measured as an ordinal variable with the following categories: 1 = intermediate, 2 = high school, 3 = diploma/2-year degree, 4 = institution/technical/trade, 5 = bachelor degree, 6 = master degree, and 7 = doctorate degree; mean = 4.07; std. = 1.993]. Almost half (48%) are married. Their businesses are relatively mature (62% are at least three years old, while 40% have been in business at least five years) [age of the firm was measured as an ordinal variable with the following categories: 1 = less than 1 year old, 2 = 1– less than 3 years, 3 = 3–5 years, and 4 = longer than 5 years; mean = 2.80; std. = 1.188]. Women have a leadership role in their business (88%) and the majority ownership (66%). The firms are unevenly split between family businesses (21%) and non-family businesses (79%). The businesses were started either mostly alone (44%), or with family members (31%), or with non-relatives (25%).

Measures

Our design is cross-sectional in nature, therefore, in order to perform mediation analysis, we thought to provide a convincing rationale for directionality specifications when formulating our research hypotheses, as suggested by Kline (2015). That is, we hypothesized the direction of links between the two BFI enrichment components (instrumental and affective) and the interference dimension. Then, we also suggested a link between this interference dimension and entrepreneurial success. Finally, we also considered direct links between the enrichment elements and the outcome variable. Unfortunately, we were unable to utilize an experimental mediation design or longitudinal mediation design, typically suggested for mediation analyses (Kline 2015). To overcome this deficiency, we carefully designed our survey items to temporally separate enrichment, interference, and the outcome constructs. The enrichment dimensions were measured by taking the respondent back in time to the *beginnings* of her business venture. Next, the interference component was measured based on the respondent's perception of felt gender-related personal problems *during* the business endeavor, i.e., from the business launch date to present. Thus, we suggested that it is enrichment that may "affect" interference, being that it is the antecedent timewise. Finally, the entrepreneurial success was measured in the *current* real time, which positioned it at the end of the timeline spanning the three occurrences. A similar approach where the variables are measured based on a point in time has been utilized in many cross-sectional studies involving mediation analysis (Huyghe et al. 2016; Laspita et al. 2012; Patel and Conklin 2010; Stenholm and Renko 2016; Zheng 2012).

Dependent variable

Entrepreneurial success. This dependent variable is an aggregate of two measures, the *current* business annual income and the number of years the business has been in operation. The first measure depicts financial performance (Diaz-Garcia and Brush 2012; Dyer et al. 2012; Lerner et al. 1997; Sullivan and Meek 2012), the second – its longevity and survival (Ha-Brookshire 2009; Staniewski 2016; Staniewski et al. 2016; Sullivan and Meek 2012; Zhao et al. 2010).

Each respondent was presented with the same five annual income brackets to choose from, in Euro, the legal currency used in Austria: (1) below 8000 Euros; (2) between 8000 and 21,000 Euros; (3) between 21,001 and 53,000 Euros; (4) between 53,001 and 80,000 Euros; and (5) more than 80,000 Euros. The brackets were adjusted so that the middle (third) bracket contain the average gross yearly income of employees in Austria in 2015, 31,182 Euros (<https://tradingeconomics.com/austria/wages>). Then, the income brackets are aggregated into two categories, coded (1) when the respondent's annual business income was selected from any of the (3)–(5) categories (high financial success group) and (0) when the first two income brackets were selected (low financial success group). An income-related categorical measure (although with more than two income brackets) of firm performance was also used in other studies (Cetindamar et al. 2012; Diaz-Garcia and Brush 2012; Mari et al. 2016).

The number of years in business is used in this study as a proxy for business longevity and survival. The respondents were provided with four brackets to choose from: less than 1 year, 1 to less than 3 years, 3 to 5 years, and longer than 5 years. A similar approach to measuring the age of the business was applied by Kimosop et al. (2016). Years in business is also used, *albeit* as a continuous control variable, in other studies (Cruz et al. 2012; Hsu et al. 2016; Powell and Eddleston 2013). In the current study, the four brackets are eventually collapsed into two categories and coded (1) when the woman entrepreneur had been in business for at least five years and (0) otherwise. It was our intention to consider a business venture successful in terms of its longevity and survival only if it had been in existence for at least five years. Most start-ups do not survive the first five years of their existence (Parker 2009). According to the European Union 2014 data (Eurostat 2016), only 44% of companies survive five years compared to an 80% one-year survival rate. Staniewski et al. (2016) point to studies (Backes-Gellner and Werner 2003; Knaup and Piazza 2007) that refer to the first four years following the start-up of an enterprise as the “death valley”. The survival rate after at least 3 years for companies surveyed in Austria by Frank et al. (2007) has been reported at the level of around 71%. According to Eurostat (2016), this percentage was around 62% in 2014. In this case, the researchers used the continued existence of the business after 3 years as a success criterion. Therefore, the achievement by a company of the five-year life benchmark is by no means a testimony to its significant success.

Previous research suggests that capturing the multifaceted nature of entrepreneurial success requires the use of multiple measures (Kimosop et al. 2016; Murphy et al. 1996; Soriano 2003; Staniewski 2016; Wiklund and Shepherd 2005). This study assesses the two measures together using their composite indicator, constructed as follows: *Entrepreneurial Success* = 1 if both gross annual income and the number of years in existence are coded (1); and = 0 if at least one of the two dimensions is coded (0). The reason for this coding approach is the desire to consider as

entrepreneurially successful only those women who managed to excel simultaneously along the two dimensions. Therefore, a partial success (when only one of the two dimensions is coded 1) is categorized in this study as a lack of entrepreneurial success. Such construction of “conjunctive outcome conditions” (Woodside 2016) rather than modeling each separately involves asymmetrical testing of two sets of cases: firms with high income and longevity, and firms low in at least one of these dimensions.

Predictors

Family financial support. Women-owned business need access to financial capital especially at the launch phase, which is a challenge in many countries around the globe (Aidis et al. 2007; Akehurst et al. 2012; Bardasi et al. 2011; Carter et al. 2015; Jennings and Brush 2013; Shelton 2006; Sullivan and Meek 2012). Access to capital means that the woman entrepreneur has more flexibility and control over her time to focus on managing and growing the business (Akehurst et al. 2012; Brana 2013; Cetindamar et al. 2012; Tlaiss 2014). Carter et al. (2015) found that women entrepreneurs’ businesses that began with lower levels of capitalization were impacted by constrained growth in the long run. This variable was measured as (1) if a woman entrepreneur *started* the business borrowing from her family; (0) when she financed the start-up with her own savings or with money borrowed from nonrelatives and/or banks (Cruz et al. 2012; Mari et al. 2016).

Family moral support. Women’s entrepreneurial processes are positively impacted by family affective (moral) support (Chang et al. 2009, 2012; Welsh et al. 2013, 2014a, 2014b). The moral support measure used in this study includes five family moral support categories (spouse, child, parent, siblings and/or relative) and four non-family moral support categories (friend, mentor, government agency, and/or private agency), as perceived by the respondent at the *beginning* of the business venture. The data were obtained as rankings of four out of nine (i.e., pick and rank k out of n; ties allowed) predetermined categories of moral supporters in a business venture. We used the “pick and rank” rather than “pick only” procedure to better tap into the respondent’s “top of mind awareness”, thus adopting the Fishbein and Ajzen’s (1975) “top of mind brand awareness” concept. Many respondents equally evaluated more than one category and assigned the same rank to them, thus indicating a tie.

We coded the family moral support responses as follows: Code = 1 (strong family support) if at least two out of the five family moral supporters were assigned by the respondent any of the ranks 1, 2, 3, or 4 (out of the nine categories), and Code = 0 (weak family support) otherwise.

Gender-related personal problems. Research has established that family-business conflict affects the success of women entrepreneurs (Brana 2013; Karkoulou et al. 2016; Noguera et al. 2015; Sullivan and Meek 2012; Tlaiss 2014; Ufuk and Özgen 2001). Family responsibilities make up some of the most important constraints affecting women entrepreneurs (Jennings and Brush 2013; McGowan et al. 2012; Ramadani 2015). This has a negative effect on women’s careers in the entrepreneurial realm as well as other career fields (Karkoulou and Halawi 2007; Welsh et al. 2014a, 2014b). Shelton (2006) suggested that resolving family-business conflict is important for business performance as it impacts the well-being of the entrepreneur and improves the performance of the business. For small firms, any conflict involving the family and

business has a negative impact on owner income and the survival of the business (Loscocco et al. 1991). The business life space is affected negatively by the time spent on outside family activities, such as childcare (Williams 2004).

Each respondent was presented with a predetermined list of personal problems felt *during* the business venture: emotional stress, family stress, loneliness, conflict between business and family relationships, conflict between business and personal relationships, poor or lack of support, time management, dealing with males and/or dealing with drivers. The data were obtained (similarly to the family moral support case) as rankings of four out of nine (i.e., pick and rank k out of n; ties allowed) predetermined categories of personal problems in the business venture. Many respondents equally evaluated more than one category and assigned the same rank to them.

We coded the personal problems responses as follows: Code = 1 (big personal problems) if at least four out of the nine problems were assigned by the respondent any of the ranks 1, 2, 3, or 4 (out of the 9 available categories), and Code = 0 (small personal problems) otherwise. In this case, we were looking for about half (4 out of 9) of problem categories to be selected by the respondent to indicate big personal problems. Note, that in the previous case of moral supporters, we were looking for two out of the five (also about half) family moral support categories to be selected. We wanted the two cut-off percentages to be as close as possible to each other for consistency between the two coding schemes.

Control variables

The study controlled for additional variables to eliminate their possible influence on the relationships between the predictors and the dependent variable. The role of control variables is deliberately assumed to be confounding (Hsu et al. 2016; Spector and Brannick 2011). Therefore, only those variables that are likely to affect the associations among the variables of interest should be selected. In this study, we used the level of education and perceived management skills, two human capital variables that are typically considered relevant for entrepreneurial performance and success.

Level of Education was used to indicate whether the respondent had the education level of higher than high school (= 1) or otherwise (= 0). Formal education can increase women's access to knowledge that can help in launching and running a business (Pathak et al. 2013; Ramadani et al. 2013). The categorical coding of the education level was employed in other studies (Lofstrom et al. 2014; Manolova et al. 2006; Pathak et al. 2013) while the binary coding was specifically employed by Cruz et al. (2012) and Mas-Tur et al. (2015).

Management Skills are frequently listed among determinants of entrepreneurial success (Staniewski 2016). We relied on the entrepreneur self-evaluating her management skills (Asah et al. 2015; Chen et al. 1998; Ramadani et al. 2013; Sambasivan et al. 2009; Schenkel et al. 2015; Welsh et al. 2017). Lacking management skills and basic business skills are obstacles to business success (Leibenstein 1968; Lerner and Haber 2001) and firm performance (Mari et al. 2016; Prasad et al. 2013; Rey-Marti et al. 2015; Staniewski et al. 2016). However, some studies did not find this relationship (Kimosop et al. 2016). A woman entrepreneur will increase her chances of

business success if she possesses management skills or can learn them (Buttner 2001; Huarng et al. 2012; Lerner et al. 1997; Mitchelmore and Rowley 2013). In this study, the respondents were asked to self-evaluate seven functional business skills including financial, dealing with people, marketing, general management, sales, idea generation/product innovation, and organization and planning skills. We measured management skills at four levels, arranged as poor, fair, good, or excellent.

The final coding was like that applied earlier to the family moral support variable due to the natural ranking among the four categories. In the end, management skills are measured as (1) when the skills were selected as good or excellent, or as (0) when poor or fair (Lerner and Haber 2001; Nissan et al. 2012; Rey-Martí et al. 2015).

The measures and their sample results are summarized in Table 1.

Table 1. Measures and sample frequencies

Measures	N	%
Current business annual income:		
• below 8000 Euros	16	0.18
• 8000–21,000 Euros	29	0.33
• 21,001–53,000 Euros	24	0.27
• 53,001–80,000 Euros	12	0.14
• more than 80,000 Euros	7	0.08
Number of years in business:		
• less than 1 year	20	0.22
• 1 to less than 3 years	15	0.16
• 3 to 5 years	20	0.22
• longer than 5 years	37	0.40
Family financial support:		
• borrowing from family	33	0.37
• borrowing from others or using own savings	57	0.63
Family moral support:		
• strong family support	43	0.47
• weak family support	48	0.53
Gender-related personal problems:		
• big personal problems	69	0.75
• small personal problems	23	0.25
Level of education:		
• intermediate	8	0.09
• high school	26	0.28
• diploma/2-year degree	7	0.08
• institution/technical/trade	0	0.00
• bachelor degree	20	0.22
• master degree	24	0.25
• doctorate degree	7	0.08
Management skills:		
• good or excellent	78	0.85
• poor or fair	14	0.15

Analyses

Descriptive statistics and correlations for the sample are presented in Table 2.

Table 2. Descriptive statistics and correlations

Variable	Mean	S.D.	1	2	3	4	5
1. Level of education	0.63	0.48					
2. Management skills	0.85	0.36	0.30**				
3. Family financial support	0.37	0.48	-0.04	0.01			
4. Family moral support	0.47	0.50	-0.18	0.10	0.08		
5. Gender-related personal problems	0.75	0.43	-0.13	0.04	0.34***	-0.31**	
6. Entrepreneurial success	0.33	0.47	-0.14	0.17	-0.18	0.23*	-0.35***

N ranges from 89 to 92;

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

Common method bias and multicollinearity

Collecting data from self-reported questionnaires at one point in time can lead to common method bias (Podsakoff et al. 2003). Therefore, Harman's one-factor test on all six observed variables was applied. The exploratory factor analysis produced the (unrotated) factor solution with three factors, accounting for 69.98% of the total variance explained. Should common method bias be present, a single factor would have been extracted and accounted for most of the variance. Since such a single factor solution did not emerge, it was assumed that the common method bias is not a concern in this study.

We also run collinearity diagnostics to ensure that multicollinearity was not a problem. All VIFs are below 1.5, which is less than the recommended cut-off threshold of 10 for linear regression models (Hair et al. 2010) or 2.5 for weaker models such as logistic regression (Allison 1999).

The KHB method

As explained in the introduction, this study has been set to investigate a possible mediating effect of gender-related personal problems on the relationships between family instrumental and affective support and entrepreneurial success. Because of the non-linear (binary) nature of the dependent variable, we perform a formal test of mediating effect using the earlier described KHB method proposed by Karlson et al. (2012). This method extends the decomposability properties of linear models to non-probability models. The basic idea underlying the technique is to extract from the mediating variable the information that is not contained in the independent variable.

In selecting an appropriate analytical method, we considered also the Hayes PROCESS and MEDIANTE macros, readily available in SPSS (Hayes 2013, 2018; Hayes and Preacher 2014). However, one documented (Hayes and Preacher 2014) limitation of PROCESS is that only a single independent variable (IV) can be specified in a mediation model (e.g., the PROCESS *Model 4*). When using multiple IVs, Hayes and colleagues recommend to repeat the procedure, running the analysis for each IV separately while considering the others as covariates. Because the KHB method accepts all IVs in one mediation analysis, we opted for this choice. Further comparisons of the KHB method vs. the PROCESS and MEDIANTE macros are beyond the scope of this article.

We estimated all models using Stata 14.0's *khh* module (StataCorp 2015). We used *vce (robust)* command, which generates robust standard errors according to the Huber/White sandwich estimation procedure (Huber 1967; White 1980). Because the results may be sensitive to model choice (logit or probit), outcomes from both approaches were produced. The results were qualitatively identical, indicating that the decomposition is not sensitive to the choice of the logistic (for the logit model) or normal (for the probit model) distribution. Only the analysis from the logit model is reported (Table 3).

Table 3. Logit and *khh* logit models

	<i>ES</i> ^a Model 1 (logit)	<i>ES</i> Model 2 (logit)	<i>ES</i> Model 3 (logit)	<i>Problems</i> Model 4 (logit)	<i>ES</i> Model 5 (<i>khh</i> logit)	<i>ES</i> Model 6 (<i>khh</i> logit)
Control variables						
Level of education	−0.94 [‡] ^b	−1.10*	−1.65**	−1.97**	Total effect −1.45*	
					Direct effect −1.92**	
					Indirect effect 0.47	
					Mediation 32.4	
					percentage	
Management skills	1.63*	1.82*	2.59**	1.54 [‡]	Total effect 2.50**	
					Direct effect 2.85**	
					Indirect effect −0.35	
					Mediation 14.0	
					percentage	
Predictors						
Family financial support		−1.22**		3.16**	Total effect −1.36*	−0.98 [‡]
					Direct effect −0.61	−0.56
					Indirect effect −0.75 [‡]	−0.42 [‡]
					Mediation 55.1	42.9
					percentage	
Family moral support		0.88 [‡]		−2.72***	Total effect 0.90 [‡]	1.09*
					Direct effect 0.09	0.70
					Indirect effect 0.81 [‡]	0.39 [‡]
					Mediation 90.0	35.8
					percentage	
Gender-related personal problems			−2.29***			
N	92	89	92	89	89	89
−2 log likelihood	109.61	97.26	93.39	67.84	86.82	99.31
Chi ²	6.50*	14.86**	19.72***	23.50***	19.67**	11.70**
Pseudo R ²	0.06	0.13	0.20	0.33	0.23	0.12

^a*ES* = Entrepreneurial success (Dependent variable)

^bHeteroscedasticity-robust standard errors

[‡] $p < 0.10$

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

Results

Altogether, six models were estimated: four logit models (Models 1–4) and two *khh* logit models (Model 5 with the control variables and, as a robustness check, Model 6 without the control variables). Overall, all models are significant based on the values of the chi-square χ^2 statistic

(Table 3). Model fit was measured using $-2 \log$ likelihood and pseudo R-square which are widely used in studies using logistic regression analyses (e.g., Hsu et al. 2016).

In the base model (Model 1), entrepreneurial success was regressed only on the two control variables. Entrepreneurial skills have a positive relationship with entrepreneurial success ($p = 0.044$), suggesting that increased human capital specific to entrepreneurship makes entrepreneurs more likely to succeed, which corroborates prior research (listed earlier). Education has a negative ($p = 0.053$) relationship with the dependent variable. This is an intriguing result that warrants future research. Typically, formal education has been found helpful in achieving entrepreneurial success (Mas-Tur et al. 2015; Ramadani et al. 2013). However, Lofstrom et al. (2014) suggest that although formal education often enhances one's analytical and communication skills which leads to better performance, it may also discourage individuals from starting an entrepreneurial venture in the first place. Cruz et al. (2012) have also obtained a negative relationship between education level and firm performance (return on assets). Lerner et al. (1997) found no relationship between education and performance. In our study, entrepreneurial success is a must combination of two factors: financial success and business longevity. The correlation coefficient between the latter component and the education level (not reported earlier) is negative (-0.373) and significant ($p = 0.000$) whereas the financial success and the education are not correlated (-0.064 ; $p = 0.551$). This may indicate that either the longer a woman stays in business the lower is the level of her formal education or the higher is her level of education the shorter she stays in business. Longitudinal studies are needed to find an explanation for this somewhat puzzling negative relationship. It is plausible that women who start their entrepreneurship career early in their lives have later little time to acquire formal education (See Aragon-Mendoza et al. 2016, for additional insights in this regard). On the other hand, it is also possible that women with higher education drop early from entrepreneurship ventures and move to competitive salaried employment (Lofstrom et al. 2014), particularly in economically developed countries like Austria.

In Model 2, entrepreneurial success was regressed simultaneously on the two predictors, family financial support and family moral support, to test main effects' hypotheses. Since the correlation coefficient between the two predictors is very low ($r = 0.08$, $p = 0.434$) we did not anticipate the risk of confounding and/or suppression effects which may occur when the independent variables are correlated (Hsu et al. 2012). Family financial support is found to be negatively related to entrepreneurial success ($p = 0.024$) while family moral support is positively related to the outcome variable ($p = 0.080$). Thus, hypotheses H3 and H6 are supported, respectively.

In Model 3, we test the relationship between gender-related personal problems (a hypothesized mediator) and entrepreneurial success. The relationship is negative and strongly significant ($p = 0.000$) thus supporting hypothesis H1.

In Model 4, entrepreneurial success is replaced with gender-related personal problems as the dependent variable. Family financial support is found strongly positively related to the outcome variable ($p = 0.001$), which support hypothesis H2. Family moral support is strongly negatively associated with gender-related personal problems ($p = 0.000$) in support of hypothesis H5.

In Model 5, the mediation analysis is completed through the KHB method decomposition of the total effects of the variables into their direct and indirect components.

For family financial support, the total effect (-1.36 ; $p = 0.031$) is partitioned into the direct effect on entrepreneurial success (-0.61 ; $p = 0.315$) and indirect (via gender-related personal problems – the mediator) effect (-0.75 ; $p = 0.099$). Compared to Model 2, the direct effect of family financial support on entrepreneurial success is no longer significant when the mediator is controlled, which suggests full mediation (in view of the results in Model 4) (Baron and Kenny 1986). The mediation percentage (indirect effect/total effect) is equal to 55.1%. This means that 55.1% of the association between family financial support and entrepreneurial success is channeled through gender-related personal problems. Those results support hypothesis H4.

Regarding family moral support, its total effect (0.90 ; $p = 0.094$) is partitioned into the direct effect on entrepreneurial success (0.09 ; $p = 0.880$) and indirect effect (0.81 ; $p = 0.082$). As in the previous case, compared to Model 2, the direct effect of family moral support on entrepreneurial success is no longer significant in the presence of the mediator, which, again, suggests full mediation. The mediation percentage of 90.0% indicates that the positive (Model 2) relationship between family moral support and entrepreneurial success is almost annihilated by the presence of gender-related personal problems. Thus, hypothesis H7 is supported.

Finally, in Model 6, we repeated the KHB analysis, this time without the control variables. Comparing Models 6 and 5 allows us to investigate the impact of control variables on the KHB results (Breen et al. 2013). We see that the results in Model 6 are qualitatively like those reported in Model 5. The only noticeable difference is a drop in the mediation percentage for family moral support from 90.0% to 35.8% when we do not control for the level of education and perceived management skills. This suggests that high levels of human capital enhance the mediating positive effect of personal problems on the relationship between family moral support and entrepreneurial success. Women with higher education level and better-perceived management skills apparently have more confidence in their abilities which, in turn, translates into better performance. Thus, the two human capital dimensions do confound the KHB decomposition (Breen et al. 2013) and, as such, are worthy of being assigned a role of control variables (Hsu et al. 2016).

To aid in the interpretation of these effects, Karlson et al. (2012) suggest reporting three measures, the confounding ratio, the confounding percentage, and the rescaling factor (Table 4).

Table 4. Summary of confounding

Variable	Conf_ratio	Conf_pct	Resc_fact
Family financial support	2.22	54.93	1.11
Family moral support	9.87	89.87	1.01
Level of education	0.75	-32.47	1.32
Management skills	0.88	-13.99	1.37

In the first column, the confounding ratios are presented. They measure the impact of confounding (mediation) net of rescaling and are calculated as the ratios of total effect to direct effect. For example, the confounding ratio for family financial support equals 2.22 (=

$-1.36/-0.61$, based on Model 5). Thus, the total effect (i.e., the sum of the direct and indirect effects) for family financial support is 2.22 times larger than the direct effect (i.e., the effect of family financial support that remains after controlling for gender-related personal problems – the mediator).

In the second column, the confounding (mediation) percentages are displayed. They are calculated as the ratios of indirect effect to total effect. They represent the percentage change in the regression coefficient attributable to confounding (mediating) net of rescaling. For example, the confounding percentage for family financial support equals 54.93 (which matches approximately, due to the rounding error, the earlier explained corresponding entry in Model 5: $55.1 = -0.75/(-1.36)$, based on Model 5).

In the third columns, the rescaling factors are shown. They measure the impact of rescaling net of confounding (mediation) and are calculated as the ratios of the total effect and the corresponding regression coefficient in Model 2 (without the mediator). For example, the rescaling factor for family financial support equals 1.11 ($= -1.36/(-1.22)$), based on Models 5 and 2, respectively).

Discussion

In extant literature, only a handful of models specifically consider links between various BFI dimensions and performance (Eddleston and Powell 2012; Jennings and McDougald 2007; Kellermanns and Eddleston 2004; Loscocco and Bird 2012; Powell and Eddleston 2013; Shelton 2006; Wincent and Örtqvist 2009) or entrepreneurial exit intentions (Hsu et al. 2016). There are even fewer attempts to test these connections empirically (Eddleston and Powell 2012; Hsu et al. 2016; Loscocco and Bird 2012; Powell and Eddleston 2013). Finally, as mentioned earlier in the introduction, only a few studies suggest exploring in future research possible mediating effects within the BFI-performance framework (Eddleston and Powell 2012; Hsu et al. 2016; Powell and Eddleston 2013; Shelton 2006). Loscocco and Bird (2012) test empirically the mediating effect of work-family obligations on the woman business ownership and performance connection, although not specifically within the BFI framework.

In this study, we examined the relationships between two sub-dimensions (family financial and moral support) of the enrichment component of the business-family interface (BFI) and the entrepreneurial success of women business owners. We investigated whether and how the other BFI component, interference (gender-related personal problems), mediates these relationships. For this purpose, we used a novel method, known in the literature as the KHB method (Karlson et al. 2012), which is the only currently acceptable approach to mediation analysis involving non-linear models, such as ours (the logit model). Findings suggest a full mediating effect of the BFI interference dimension on the interactions between the two BFI enrichment sub-dimensions and entrepreneurial success.

As hypothesized, we found that women entrepreneurs' gender-related personal problems (fully) mediate the relationship between family financial support and entrepreneurial success, in view of support found for Hypothesis 4 as well as Hypotheses 1, 2, and 3 involved in the mediation structure. We also found that women entrepreneurs' gender-related personal problems (fully)

mediate the relationship between family moral support and entrepreneurial success, in view of support found for Hypothesis 7 as well as the related Hypotheses 1, 5, and 6.

These two findings shed light on the conflicting results reported in the literature between personal problems and performance. As mentioned earlier, researchers are somewhat puzzled by the nature of the relationship between these two variables. Most studies claim that this relationship is negative (e.g., Baughn et al. 2006; Welsh et al. 2014a, 2014b), others, however, see some benefit in a women entrepreneur feeling challenging personal problems, as they stipulate her for more efficient work (Jennings and McDougald 2007; Ruderman et al. 2002; Schjoedt 2013).

Because we allowed personal problems to interact simultaneously with the two enrichment dimensions (instrumental and affective) in our model of entrepreneurial success, we can provide some explanation. We find that personal problems impact the performance differently when a woman is confronted with the family tangible involvement (such as financial or organizational support) compared to family affective only engagement. In the former case, personal problems aggravate the situation and fuel conflicts arising at the woman's family-business intersection. They thus play a negative role. In the latter scenario, they do help the woman who feels a warm and moral (unintrusive) support which gives her more stamina to conquer her problems and emerge victorious from such battles with the benefit for her company. They then act as a positive influence. In essence, personal problems are two-sided: they provide positive results when family moral support is felt, and negative outcomes when family instrumental support takes place. Kellermanns and Eddleston (2004) also point to such dual role of conflict on performance. They envisage a situation when conflict may do a family firm good rather than (as typically thought) harm. They suggest that the level of conflict in family firms should be neither too high nor too low, but, "optimally", moderate. According to Kellermanns and Eddleston (2004), this will lead to higher levels of family firm performance. Our results suggest that along the family instrumental support-performance dimension, personal problems account for about half (55.1%) of the total effect, while in the case of affective support they are channeled through an overwhelming 90% portion of the total effect. In other words, family moral support practically "affects" performance only through the personal problems experienced by a woman entrepreneur. This reflects the impact of Positive Psychological Capital (PsyCap) by Luthans and colleagues (Luthans et al. 2007) (For a complete review, see Dawkins et al. 2013, 2015; Newman et al. 2014).

This study makes three unique contributions to the entrepreneurship literature. First, the study shows empirically the mediating role of the BFI interference dimension in the relationship between the other BFI dimension, enrichment, and entrepreneurial success. We are aware of only one study that connects empirically both enrichment and interference perspectives within the BFI framework (Hsu et al. 2016). However, the Hsu et al. (2016) study focuses on entrepreneurial exit intentions rather than firm performance. Our study is the first that links the two BFI aspects to firm performance with an exclusive focus on female business owners. Second, within the enrichment angle, the current study employs both family instrumental and emotional support. In the Hsu et al. (2016) study, the authors use only the affective component of enrichment. Third, this study utilizes the KHB method that has been specifically developed for handling mediation

analyses involving nonlinear models. To our knowledge, this is the first time it has been applied to the field of entrepreneurship.

Limitations and direction for future research

This study has several limitations that should be kept in mind when interpreting the results. First, the study is cross-sectional and therefore the findings are limited. For example, the cause-effect relationships cannot be evaluated without either an experimental or longitudinal study, even though our theory supports the findings. A similar limitation is often acknowledged in mediation-related studies based on cross-sectional data (e.g., Chrisman et al. 2010; Fini et al. 2010; Huyghe et al. 2016; Laspita et al. 2012; Patel and Conklin 2010; Stenholm and Renko 2016; Zheng 2012). Related to this issue is a common problem arising from reverse (reciprocal) causality (Fini et al. 2010; Huyghe et al. 2016). To mitigate this problem, we carefully imposed temporal precedence conditions on enrichment, interference, and entrepreneurial success. Specifically, we insured that the outcome variable (success) could not become an independent variable that would reversely affect, for example, the interference component of the BFI. The success construct was measured at the time of conducting the survey (*now*), whereas the gender-related personal problems (interference) were being recalled by our respondents since the firm's inception. Finally, family instrumental and affective support (enrichment) dated back even further to the launch of the business venture. Thus, it is clear from our study that interference precedes success, and enrichment precedes interference. Such a careful temporal design minimizes chances for reverse causality to occur and renders the mediation analysis reasonable. Although it is difficult to establish temporal precedence in a cross-sectional setting (Fini et al. 2010), we argue that our design ensures this. As Fini et al. (2010) note, causality by any argument presupposes temporal precedence, and our design establishes a time-based scenario and the resulting possible causality. Nevertheless, we do agree with earlier studies that only longitudinal designs may help scrutinize such questions. Second, it is restricted by the size of the sample and that it is a convenience sample conducted by mail/email and through personal contacts by the researchers. As Chrisman et al. (2010) noted, convenience samples are, unfortunately, "limitations shared by the vast majority of studies in the family business literature." (p. 286). Although our sample is quite diversified in terms of basic socio-demographic characteristics, care should be taken when generalizing our results to other contexts. Third, our sample was collected in Austria, an economically developed country with well-established and mature institutions, which generate pull (opportunity) rather than push (necessity) conditions for entrepreneurship (Orhan and Scott 2001). We do not know what results would have emerged from samples from other countries, particularly those representing emerging economies and/or volatile political and socio-cultural environments. However, because of an almost sterile environment found in Austria in terms of the economic prosperity and stability, with the country categorized as an innovation-driven economy (Porter 1990), any patterns we report in this study may be attributed to the sheer nature of the relationships between the variables of interest rather than to the contextual impact of external factors such as socio-cultural, political, or institutional considerations. Fourth, our variables were measured using self-reported data instead of objective criteria because the businesses in our sample were privately owned. Obviously, data on business characteristics from established sources would have been preferred. We find, however, suggestions by other researchers that founder-reported measures may be highly correlated with objective data and thus are equally reliable (Cruz et al. 2012; Patel

and Conklin 2010). Fifth, our dichotomous measures of the BFI dimensions as well as the entrepreneurial success components are somewhat coarse-grained because of the categorical level of measurement employed exclusively in the entrepreneurship questionnaire that we adopted for our study. Sixth, regarding the interference dimension of the BFI, we could use only one question available in the questionnaire that related to gender-related personal problems. We wish we had an ability to measure separately the influence of business on family relationships and the influence of family relationships on business. A similar comment applies to the enrichment dimension (family instrumental and affective support). We had only general data on those two dimensions, without specific knowledge as to the bi-directional links connecting them with the outcome (performance) construct.

Future longitudinal studies should attempt to measure all six links (four bi-directional links between the enrichment dimensions and performance and two bi-directional links between the interference dimension and performance). The measures should be metric, based on reputable measurement scales, so that their reliability and validity could be tested. Such data would allow for further testing of the relationships within the BFI-performance framework. For example, it is plausible that not only either the enrichment (interference) component could affect the relationship between the interference (enrichment) and performance but also that performance itself might play a role between the other two constructs, and in both directions (Powell and Eddleston 2013; Welsh and Kaciak 2018).

Finally, it would also be interesting to investigate the relationships proposed in this study with techniques other than the regression-based KHB method. A potential method is the fuzzy set qualitative comparative analysis (fsQCA; Ragin 2000) that has become increasingly prominent over the last few years in business and management research (e.g., Kraus et al. 2018). fsQCA seeks to establish logical connections between various combinations of casual conditions and an outcome. The method is particularly useful in cases when the relationships between the independent and dependent variables are asymmetric rather than correlational (symmetric) as it is being assumed in the conventional, regression-based, techniques. Specifically, fsQCA helps “to discover different configurations ... of multiple interrelated variables all leading to the same desired output.” (Kraus et al. 2018, p. 16). The technique is well suited to situations where there are several pathways to the outcome. Although fsQCA does not seem to allow for conventional mediation analyses offered by, for example, the regression-based techniques, it would be interesting to investigate whether various combinations of the present study’s variables of interest (family financial and moral support, and gender-related personal problems, supplemented with control variables) lead to entrepreneurial success in the way found in this study through the KHB method.

Conclusion and implications

In conclusion, the present study suggests that family affective support is more important to women entrepreneurs than family instrumental support, at least in a developed country as exemplified by Austria. When a woman entrepreneur faces often unavoidable personal challenges and problems emanating from her business-family realms, she is more likely to achieve entrepreneurial success in the presence of family moral support. In the same conditions,

she is less likely to achieve similar success when overwhelmed with the consequences of allowing her family to help her instrumentally (e.g., financially or organizationally).

This finding should encourage public and government authorities to better promote family moral (unintrusive) support for women entrepreneurs and their businesses. Public policy initiatives should include access to financing for women so that they are not forced to rely primarily on their families when looking for funding their businesses. Managerial implications should focus on the fact that retaining valued female employees is important. Part-time policies so that women can work on their business as well as maintain a current position in a firm are important. With the average age of the workforce getting older, finding and retaining highly productive employees is important. Benefit policies, including time-off, and short-term leave policies should be flexible. Overall contribution to the business should be considered. Finally, women should be trained how to turn the necessity of multitasking in their favor by making it a friend rather than a foe thanks to felt family affective support. In conclusion, the success of women-owned businesses depends on family affective support and it should be encouraged. Training at all levels of outreach to women-owned businesses should be conducted to communicate what makes for successful women-owned businesses. Training the families surrounding the business as well as women business owners themselves should result in higher levels of understanding.

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