Ageing & Society **32**, 2012, 673–696. © Cambridge University Press 2011
doi:10.1017/S0144686X11000547

Stepping into my shoes: generativity as a mediator of the relationship between business owners' age and family succession

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ABSTRACT
The authors investigated generativity – the concern in establishing and guiding the next generation – as a mediator of the relationship between family business owners' age and succession in family businesses. Data came from 155 family business owners in Germany from different industries between the ages of 26 and 83 years. Results showed that age was positively related to generativity, and that generativity, in turn, positively influenced an objective measure of family succession. Generativity fully mediated the positive relationship between age and family succession. The findings suggest that generativity is an important psycho-social construct for understanding ageing, careers and succession in family business settings.

KEY WORDS – generativity, age, succession, family businesses, careers.

Introduction

Entrepreneurship – starting and managing a business for the purposes of growth, income and personal satisfaction – contributes importantly to employment, economic growth and innovation in most developed and developing countries around the globe (Hisrich, Langan-Fox and Grant 2007; Mead and Liedholm 1998; Reynolds *et al.* 2005). In the context of demographic changes and the ageing of the workforce in many Western and Eastern countries (Cohen 2003; Shrestha 2000), the role of age in entrepreneurship and small business settings has received increasing attention from researchers over the past years (Curran and Blackburn 2001; de Bruin and Firkin 2003; Gielnik, Zacher and Frese in press; Kean, Van Zandt and Maupin 1993; Lévesque and Minniti 2006; Obschonka, Silbereisen and

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Schmitt-Rodermund 2010; Rogoff 2007; Schmitt-Rodermund 2004). However, most of these studies did not consider theories and concepts from the ageing and developmental psychology literature and thus neglected potentially important theoretical considerations that follow from a lifespan perspective on entrepreneurship.

In this study, we take an interdisciplinary approach to these issues by suggesting that ageing and developmental psychology research can make a meaningful contribution towards a better understanding of the process of family succession in small and medium-sized family businesses (Ambrose 1983; Davis and Harveston 1998; Handler 1994; Ibrahim, Soufani and Lam 2001; Miller, Steier and Le Breton-Miller 2003). Specifically, we investigate the developmental construct of generativity as a mediator of the relationship between family business owners' age and succession in German family businesses. Based on generativity theory (Erikson 1950; McAdams and de St. Aubin 1992, 1998), we conceptualise *family business owners' generativity* in this study as family business owners' concerns with establishing and guiding members of the younger generation (*e.g.* their children) in the family business, while focusing less on their own career goals, occupational gains and accomplishments. Consistent with recent research in lifespan psychology, we emphasise the *priority* of generative goals over one's own career goals in our conceptualisation of business owners' generativity (Lang and Carstensen 2002). Even though it is certainly possible to pursue both generative and personal career goals at the same time, lifespan researchers have suggested that it is goal priorities that shift with increasing age (Carstensen, Isaacowitz and Charles 1999). This means that over the lifespan, generative goals gain in importance over one's own career goals and that with increasing age there is a shift in people's priority from own career goals to generative goals.

Family succession refers to the question of whether family business owners have successfully made arrangements for a family member to take over the business when they retire, or whether they have (yet) failed to do so (Sharma 2004). Understanding family succession is important for two reasons. First, family succession is an important success criterion in family business settings, as a majority of family business owners would like to retain family control over the business past their own tenure (Astrachan, Allen and Spinelli 2002). Family businesses are more likely to place a high priority on long-term continuity and sustainability rather than emphasising short-term profits, which increases the importance of family succession (Kets de Vries 1993; Miller and Le Breton-Miller 2006). In addition, research emphasising a resource-based view of family firms suggests that family succession involves the transfer of tacit knowledge (Cabrera-Suárez, De Saa-Pérez and García-Almeida 2001) and social and cultural capital (*e.g.* networks; Steier 2001).

These intergenerational transfers of resources, in turn, may lead to competitive advantages for family firms that are successful with regard to family succession. However, despite many family business owners' desire for cross-generational sustainability, past research indicates that many family businesses do not prepare properly for family succession (Handler 1994; Kertesz and Atalaya 1999). For instance, only half of family businesses manage the transition to the second generation and only about one-third make it to the third generation (Neubauer and Lank 1998; Shanker and Astrachan 1996). Thus, succession planning seems to be an important issue faced by family businesses (Handler 1994). Identifying factors that contribute to successful family succession would therefore contribute to a better understanding of important processes in family businesses and would have practical implications for entrepreneurs involved in family business settings.

Second, family succession is a major determinant of the career choices faced by family members of the next generation (Marshall *et al.* 2006; Sharma and Irving 2005). A better understanding of family succession in small business settings could therefore help answer the question of why some people choose to pursue careers as entrepreneurs. This question is central in the entrepreneurship domain (Baron 2004). So far, entrepreneurship researchers investigating this question have paid only little attention to family succession. This is surprising, given that a large proportion of private enterprises are family businesses (Klein 2000; Lee 2006; Zahra, Hayton and Salvato 2004). Approximately 95 per cent of all firms in Germany are family firms (Haunschild *et al.* 2007) with similar rates in other European countries and the United States of America (USA) (Austrian Institute for SME Research 2008; Lee 2006). Altogether, about two-thirds of firms worldwide are family businesses (Gersick *et al.* 1997). This implies that family succession should be an important mechanism through which a considerable amount of people become entrepreneurs. In this context, it is important to note that early research in entrepreneurship suggested that growing up in a family with an entrepreneurial background increases the likelihood of pursuing a career as an entrepreneur; however, the main mechanism to explain this effect was social learning or role modelling, respectively (Scherer *et al.* 1980; White, Thornhill and Hampson 2007). We would like to add to this perspective by showing that family business owners may not only have an influence on their successors' careers by acting as role models but also by being generative and actively guiding members of the younger generation. Thus, identifying family business owners' generativity as an important factor with a direct effect on family succession would provide new insights into the question of why some members of the next generation become entrepreneurs while others do not in the context of family businesses.

Development of hypotheses

Business owners' age and family succession

Upper echelons theory (Hambrick and Mason 1984) states that business managers' demographic characteristics, such as age, influence their managerial decisions and actions as these characteristics are associated with core values, capabilities and perceptions that have an impact on behaviour and decision making. Based on the notions of upper echelons theory (Hambrick and Mason 1984), we argue that business owners' age is a particularly relevant predictor of family succession in small business settings. As business owners grow older and approach the end of their careers, they should become increasingly interested in transferring their businesses to the next generation and handing over their control of the family businesses. Lansberg (1991) suggested that as business owners approach retirement, they are often reminded of their own mortality. Lifespan psychology researchers have suggested that as people approach and perceive endings in their lives (*e.g.* retirement, death), they tend to prioritise generative and emotionally meaningful goals over goals instrumental for own advancement (Lang and Carstensen 2002). We argue that transferring a family business to the next generation can be considered such a generative and emotionally meaningful goal in family business settings as it includes aspects of caring and taking responsibility for future generations and the sustainability of the business. This line of reasoning is supported by a recent study by Marshall *et al.* (2006), who found that older business owners were more likely to make formal succession plans than younger business owners.

- *Hypothesis 1*: Business owners' age is positively related to family succession.

Business owners' age and generativity

We further propose that older business owners more strongly prioritise generative concerns than younger business owners. When Erikson (1950) first described the psycho-social conflict between generativity and stagnation (*i.e.* caring only for oneself) as the seventh out of eight stages in his seminal theory of lifespan development, he suggested that generative concerns first arise in middle or late adulthood. In their comprehensive generativity theory based on Erikson (1950), McAdams and de St. Aubin (1992) argued that individuals' 'need to be needed' and their 'desire for symbolic immortality' become stronger with increasing age. They assumed that these mostly subconscious motivations combine with age-related social norms (*cf.* Neugarten, Moore and Lowe 1965) to fuel a growing conscious concern for the next generation during mid-life (McAdams and de St. Aubin 1992). Empirical findings generally supported the assumption that generative

concerns become more important from young to middle adulthood (Keyes and Ryff 1998; McAdams, de St. Aubin and Logan 1993; Sheldon and Kasser 2001; Stewart and Vandewater 1998). An age-related increase in generativity is further supported by research on socio-emotional selectivity theory (Carstensen 1995), which suggests that age-related decreases in perceived remaining lifetime lead to a prioritisation of emotionally meaningful and generative life goals. Whereas young adults prioritise goals that advance their own careers and that are instrumental with regard to expanding their breadth of knowledge, older adults place more emphasis on the engagement in meaningful and lasting social activities (Carstensen, Isaacowitz and Charles 1999; Grant and Wade-Benzoni 2009; Ng and Feldman 2010). Research showed that decreases in perceived remaining lifetime indeed resulted in a preference for generativity and emotional meaningful goals (Lang and Carstensen 2002).

- *Hypothesis 2*: Business owners' age is positively related to generativity.

Generativity and family succession

Generativity theory (McAdams and de St. Aubin 1992) suggests that peoples' generative concerns may translate into a wide variety of behavioural expressions of generativity such as teaching younger people, taking over leadership roles, and helping to improve the community for future generations. Generativity in the work context is linked to greater work satisfaction, wellbeing, subjective career success (Ackerman, Zuroff and Moskowitz 2000; Clark and Arnold 2008) and predicts a variety of prosocial behaviours (Rossi 2001). Even though several researchers have proposed in recent years that generativity is an important psycho-social concern in the work and organisational context (Clark and Arnold 2008; Grant and Wade-Benzoni 2009; Kanfer and Ackerman 2004; Mor-Barak 1995; Zacher *et al.* 2011), so far no research exists that has investigated the relationship between business owners' generativity and family successions as an important outcome in family business settings.

Investigating the influence of family business owners' generativity on family succession is theoretically important because it introduces a concept from ageing and developmental psychology to gain a better understanding of processes in the management of family businesses and the career choices of potential successors. We suggest that business owners high in generativity are more likely to successfully make plans to transfer the family business to the next generation than business owners low in generativity. Generative business owners have realised and accepted that their careers are coming to an end, and that it is the next generation's turn to take over and to run the business. Generative business owners are also less inclined to seek personal

enhancement and more likely to help others to find a purpose in their lives. In addition, they may consider their business an important part of their personal legacy, and handing it over to a member of the next generation may give meaning to their life story (Kotre 1999).

- *Hypothesis 3*: Generativity is positively related to family succession.

Generativity as a mediator of the relationship between business owners' age and family succession

Research on ageing is sometimes criticised for treating chronological age as if it was a psychologically meaningful construct by itself. For example, Birren argued that,

> By itself, the collection of large amounts of data showing relationships with chronological age does not help, because chronological age is not the cause of anything. Chronological age is only an index, and unrelated sets of data show correlations with chronological age that have no intrinsic or causal relationship with each other. (1999: 460)

We suggest that family business owners' generativity is an important psychosocial construct that may help explain the positive relationship between family business owners' age and family succession. In fact, the mechanisms that link business owners' age and family succession are so far not yet well understood. For example, Marshall *et al.* (2006) proposed that leadership and conflict management styles function as mediators in this relationship, but they failed to find support for this hypothesis. Based on the theoretical arguments and empirical studies presented in the previous sections, we propose that generativity is a mediating mechanism of the positive relationship between family business owners' age and family succession. In other words, family business owners' generativity is proposed to increase with age, and this increased concern for the next generation is responsible for successfully making succession plans.

- *Hypothesis 4*: Generativity mediates the relationship between business owners' age and family succession.

Method

Setting of the present study

We investigated our hypotheses using a sample of family business owners in Germany. Family businesses are the dominant category of firms in Germany, and contribute importantly to economic growth and employment (Klein 2000). According to a recent report of the German Institute for Small and Medium-sized Enterprises Research (Haunschild *et al.* 2007; Institut für

Mittelstandsforschung 2008), approximately 95 per cent or three million of all German businesses are family businesses. Family businesses make approximately 42 per cent of Germany's national revenue (€1.9 trillion) and provide 57 per cent (13.4 million) of all jobs in Germany. The most successful German family businesses are highly specialised, they operate in particular market segments and are famous for their niche strategies (Klein 2000).

Participants and procedure

The data used in this study came from 155 family business owners in central Germany. Several different definitions of what constitutes a family business exist in the literature (Chua, Chrisman and Sharma 1999; Heck and Trent 1999; Klein, Astrachan and Smyrnios 2005). This study includes businesses that identify themselves as family businesses by measuring business owners' self-perceptions of the firm. Twelve (7.7%) of the business owners in the sample were female and 142 (91.6%) were male (one owner (0.6%) did not report his or her gender). Age distribution ranged from 26 to 83 years, and the average age was 52.82 years (standard deviation = 10.28). In terms of education, one participant (0.6%) had no school degree, 16 (10.3%) had a general education degree, 54 (34.8%) had a middle school degree, 35 (22.6%) had a high school degree, and 47 (30.3%) had a university degree.

As a first step of data collection for this study, we randomly selected 1,500 businesses located in the central German state of Hesse listed in the Hoppenstedt file, a large database of German firms that provides company profiles and financial information. We called each firm and asked the business owner whether he or she would be willing to participate in our study. Participation was voluntary; as an incentive, participants were promised to receive a feedback report on the study results. Subsequently, we sent a questionnaire package to those 821 business owners (55%) who indicated their general interest in participating; 247 business owners mailed their questionnaires back to us in prepaid envelopes (30% response rate; 16.5% overall response rate). The relatively low overall response rate is consistent with response rates of similar studies in the fields of entrepreneurship and small business management. Specifically, studies using a similar approach (*i.e.* sending questionnaires to business owners or CEOs) reported response rates between 13 and 25 per cent. For example, Keh, Nguyen and Ng (2007) reported a response rate of 13.1 per cent in Singapore. In the USA, response rates of similar studies were 13.2 per cent (Hmieleski and Ensley 2007), 24.8 per cent (Hmieleski and Baron 2009) and 19.8 per cent (Baron and Tang 2011). Thus, our overall response rate of 16.5 per cent is within the range of similar previous research. To test the representativeness

of our sample, we compared our sample to the population of 1,500 businesses and conducted *t*-tests on firm age, revenue, number of employees, firm growth in revenue between 2006 and 2009, and firm growth in employees between 2006 and 2009. All *t*-tests yielded non-significant results except for revenue. Compared to the population, our sample generated less revenue (€4.01 million *versus* €3.00 million). This suggests that our sample is representative in terms of firm age, number of employees, firm growth in revenue and firm growth in employees, and it is not representative in terms of total revenue.

Of the 247 respondents, 155 questionnaires came from family business owners which provided the data of interest for this study. We treated missing data in our study following the 'fundamental principle of missing data analysis' proposed by Newman: 'Across missing data conditions, the best data-analytic methods for dealing with missing data follow a simple yet fundamental principle: *use all of the available data*' (2009: 11, italics in original). According to Newman (2009), this principle is superior to the more commonly applied missing data techniques (*i.e.* listwise and pairwise deletion) because it does not discard empirical information. The number of missing values on the *item level* ranged from zero to seven (4.5%) in our study. For the multiple-item scales (generativity, family culture and family involvement), we followed the advice by Newman (2009) and addressed item-level non-response using mean-item imputation (Roth, Switzer and Switzer 1999), which means averaging across the items with available responses to calculate a scale score. The number of missing values on the *scale level* ranged between zero and seven (4.5%) in the study variables. We followed the advice by Newman (2009) and addressed scale-level non-response by imputing missing data using the SPSS/PASW routine for expectation-maximisation (EM) estimation (Schafer and Graham 2002). Note that six of our study variables (gender, age, education, experience, firm age, succession) were single-item measures and not 'scales' but were also imputed using the EM procedure.

Measures

Business owners' generativity. We assessed business owners' generativity by self-report using three items which we adapted from the three items recently developed by Zacher *et al.* (2011) to measure leader generativity in the university workplace. Specifically, we exchanged the word 'scientists' with 'business owners' in the first item, the words 'in my field' with 'for the business' in the second item, and the word 'academics' with 'business owners' in the third item. The items used in this study were 'I devote more energy to building up the next generation of business owners than to getting

https://doi.org/10.1017/S0144686X11000547 Published online by Cambridge University Press

ahead myself', 'I am more strongly concerned with establishing successful successors for the business than with working on my own success' and 'I use more time for rearing young business owners than for making progress in my own career'.

The items were answered on five-point scales ranging from 1 ('not true at all') to 5 ('very true'). Cronbach's α of this scale was 0.96 (Zacher *et al.* 2011, reported an α of 0.89).

Zacher *et al.* (2011) developed their items based on Erikson's classic definition of generativity (*versus* stagnation) as 'primarily the concern in establishing and guiding the next generation' (1963: 267). Furthermore, consistent with recent research on generative goal priorities in the lifespan psychology literature (Lang and Carstensen 2002), these items reflect the prioritisation of generativity goals over own career goals. Zacher *et al.* (2011) showed that self-reported leader generativity was positively and moderately correlated with follower ratings of leader generativity and with self-reports of broad generative accomplishments as assessed by the Loyola Generativity Scale (LGS; McAdams and de St. Aubin 1992, *cf.* Clark and Arnold 2008). Zacher *et al.* also provided initial evidence for the convergent and discriminant validity of their generativity scale with respect to the Big Five personality traits, narcissism, and altruism, power, and achievement life goals. The newly developed measure of work-related generativity has a number of advantages compared to McAdams and de St. Aubin's (1992) broad measure of generative accomplishments (LGS) which has been widely used by ageing researchers (McAdams and de St. Aubin 1998) and some organisational psychologists in the past (Clark and Arnold 2008). First, the LGS includes 20 very heterogeneous items, some of which do not seem relevant for generativity in the work context (*e.g.* 'I believe that society cannot be responsible for providing food and shelter for all homeless people') or refer to other established constructs in organisational psychology such as creativity or productivity (*e.g.* 'I try to be creative in most things that I do', 'Other people say that I am a very productive person'). Despite the heterogeneous nature of the scale, all previous studies using the LGS averaged the scores across the 20 items and used an overall score in the analyses (Clark and Arnold 2008). Second, the LGS assesses past generative accomplishments instead of current concerns with generativity (Clark and Arnold 2008; Keyes and Ryff 1998). For example, two sample items from the LGS are 'Others would say that I have made unique contributions to society' and 'I have made many commitments to many different kinds of people, groups, and activities in my life'. Finally, the LGS is not consistently related to age (McAdams and de St. Aubin 1992) as would be expected from Erikson's (1950, 1963) theory of lifespan development. Based on these criticisms, we decided to use the measure by Zacher *et al.* (2011).

Family succession. We measured family succession using the question 'Does a successor who will take over the business exist within the family?' Business owners answered the question with either yes (1) or no (0). This categorical measure of family succession is consistent with previous studies on the topic (*e.g.* Marshall *et al.* 2006) and represents an objective and valid measure of family succession because it asks for an actual circumstance.

Demographic and control variables. Business owners reported their age, gender (0 = male, 1 = female), and their highest German educational degree achieved (0 = no degree, 1 = general education degree, 2 = middle school degree, 3 = high school degree, 4 = university degree). We controlled for gender because research suggests that the experiences of female business owners in the succession process may be different from the experiences of male owners (Cadieux, Lorrain and Hugron 2002; Covin 1994; Harveston, Davis and Lynden 1997). In addition, business owners indicated the year their firm was established and their entrepreneurial experience. Entrepreneurial experience was computed as the sum of years as a manager of the current business and the number of years managing other businesses. Finally, we controlled for family culture and family involvement in the business because these factors may influence family succession. Family culture was assessed with three items adapted from Klein, Astrachan and Smyrnios (2005). The items were 'Family members agree with the family business goals, plans, and policies', 'Family members really care about the fate of the family business' and 'I understand and support my family's decisions regarding the future of the family business'. Items were answered on five-point scales ranging from 1 ('does not apply at all') to 5 ('applies completely'). Cronbach's α of this scale was 0.88. Family involvement was assessed with two items taken from Klein, Astrachan and Smyrnios (2005): 'How many family members participate actively in the business?' and 'How many management board members are family?' Cronbach's α of this two-item scale was 0.69.

Results

The descriptive statistics and intercorrelations of the study variables are shown in Table 1. Age was positively related to generativity ($r = 0.54$, $p < 0.01$), family succession ($r = 0.24$, $p < 0.01$) and experience ($r = 0.74$, $p < 0.01$). In addition, generativity was positively related to family succession ($r = 0.51$, $p < 0.01$) and experience ($r = 0.40$, $p < 0.01$), and negatively related to education ($r = -0.23$, $p < 0.01$). Finally, family succession was positively

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TABLE 1. *Means, standard deviations and intercorrelations of study variables*

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Business owner's age	52.82	10.28	–								
2. Generativity	2.50	1.31	0.54**	(0.96)							
3. Family succession (0=no, 1=yes)	0.63	0.49	0.24**	0.51**	–						
4. Gender (0=male, 1=female)	0.08	0.27	−0.05	−0.03	0.02	–					
5. Education	2.74	1.09	−0.10	−0.23**	−0.14	−0.06	–				
6. Experience	23.46	14.22	0.74**	0.40**	0.13	−0.20*	−0.08	–			
7. Family culture	4.34	0.83	0.05	0.15	0.33**	0.03	−0.03	−0.04	(0.88)		
8. Family involvement	1.73	1.08	−0.06	0.15	0.36**	0.00	−0.08	0.00	0.26**	(0.69)	
9. Firm age	57.57	46.69	−0.04	−0.03	−0.09	−0.15	0.07	0.04	0.09	0.04	–

Notes: Sample size: 155. SD: standard deviation. Reliability estimates (α) are shown in parentheses along the diagonal.
Significance levels: * $p<0.05$, ** $p<0.01$.

related to both family culture (r=0.33, p<0.01) and family involvement (r=0.36, p<0.01).

We used a PASW script for mediation analyses provided by Preacher and Hayes (2008) to test our hypotheses. The script incorporates the steps suggested by Baron and Kenny (1986) for tests of mediation and additionally tests the significance of the indirect (mediated) effect using the recommended bootstrapping approach (MacKinnon, Fairchild and Fritz 2007; Shrout and Bolger 2002). In all analyses, we included the complete set of control variables. However, we also ran all of the analyses without control variables and an equivalent pattern of results for all of the hypotheses emerged. Thus, we can rule out that the control variables are a potential explanation for our findings (Becker 2005). The results are shown in Table 2.

According to Hypothesis 1, age is positively related to family succession. As shown in Table 2, age positively predicted family succession (B=0.07, standard error (SE) = 0.03, Z=2.35, p<0.05, Wald = 5.52, odds ratio (OR) = 1.08), supporting Hypothesis 1.

According to Hypothesis 2, age is positively related to generativity. As shown in Table 2, age positively predicted generativity (B=0.07, SE = 0.01, β=0.53, t=5.14, p<0.01), supporting Hypothesis 2.

Hypothesis 3 states that generativity has a positive influence on family succession. As shown in Table 2, generativity was positively related to family succession (B=1.25, SE = 0.28, Z=4.51, p<0.01, Wald = 20.36, OR = 3.49), supporting Hypothesis 3.

According to Hypothesis 4, generativity mediates the relationship between age and family succession. Table 2 shows that the relationship between business owners' age and family succession became smaller and non-significant when controlling for generativity (B=0.02, SE = 0.04, Z=0.55, p=0.58, Wald = 0.30, OR = 1.02). Thus, the relationship between age and family succession was fully mediated by generativity. Preacher and Hayes' (2008) script also computes the indirect effect with bias corrected confidence intervals (CI). The results of a bootstrap analysis showed that the indirect effect of age on family succession (through generativity) was significant (indirect effect = 0.09, SE = 0.04, lower 95% CI = 0.03, upper 95% CI = 0.16). Together, these results provide support for Hypothesis 4.

To address potential limitations of EM estimation (Newman 2009; Schafer and Graham 2002), we ran our analyses with and without imputed data. The results of the analysis without imputed data (listwise N = 144) were equivalent to the results of the analysis with imputed data. All hypothesised direct and indirect effects (Hypotheses 1–4) were positive and significant. Furthermore, the standard errors of the coefficients in both analyses were

https://doi.org/10.1017/S0144686X11000547 Published online by Cambridge University Press

TABLE 2. *Results of mediation analysis*

Baron and Kenny (1986) steps	*B*	SE	*Z*/*t*	*p*	Wald/*β*	OR
Direct and total effects:						
Step 1: Family succession regressed on age (*c* path)	0.07	0.03	2.35	0.019	5.52	1.08
Step 2: Generativity regressed on age (*a* path)	0.07	0.01	5.14[1]	0.000	0.53[2]	
Step 3: Family succession regressed on generativity, controlling for age (*b* path)	1.25	0.28	4.51	0.000	20.36	3.49
Step 4: Family succession regressed on age, controlling for generativity (*c*′ path)	0.02	0.04	0.55	0.584	0.30	1.02
Partial effects of control variables on family succession:						
Gender	0.06	0.80	0.08	0.937	0.01	1.07
Education	−0.04	0.21	−0.17	0.864	0.03	0.96
Experience	−0.02	0.03	−0.59	0.556	0.35	0.98
Family culture	0.95	0.34	2.80	0.005	7.82	2.59
Family involvement	0.80	0.26	3.06	0.002	9.39	2.22
Firm age	−0.01	0.01	−1.50	0.133	2.26	0.99

Logistic regression summary for dependent variable model

−2 Log likelihood	Model log likelihood	McFadden R^2	Cox and Snell R^2	Nagelkerke R^2
126.28	78.68	0.38	0.40	0.54

Bootstrap results for indirect effect of age on family succession through generativity (*ab* path)

	Value	SE	LL 95% CI	UL 95% CI
Effect	0.09	0.04	0.03	0.16

Notes: Sample size: 155.
1. *t*-Value from linear regression analysis. 2. *β*-Coefficient from linear regression analysis. SE: standard error. OR: odds ratio. LL: lower limit. CI: bias corrected and accelerated confidence interval. UL: upper limit. Number of bootstrap resamples = 5,000.

of an equivalent magnitude, indicating that there was no problem with biased standard errors in our study.

Discussion

Demographic changes and the ageing of the workforce in most Western countries (*e.g.* Australia, Germany, as well other European countries and the USA) and some Eastern countries such as China, India and Japan have led to an increased interest in the role of age in entrepreneurship and small business settings (Curran and Blackburn 2001; Gielnik, Zacher and Frese in press; Lévesque and Minniti 2006). The goal of this study was to investigate the developmental construct of generativity as an important psycho-social mechanism in the relationship between business owners' age and succession in family firms in Germany. Germany provides a relevant socio-cultural context for investigating family business succession, as the vast majority of firms are family businesses (Institut für Mittelstandsforschung 2008). This is similar to most other European countries (Austrian Institute for SME Research 2008) as well as the USA (Lee 2006; Shanker and Astrachan 1996).

Consistent with previous research, our results showed that business owners' age was positively related to family succession (Marshall *et al.* 2006). Older business owners were more likely to report that they have successfully made succession plans. This positive relationship was fully mediated by business owners' level of generativity. Consistent with generativity (McAdams and de St. Aubin 1992) and socio-emotional selectivity theories (Carstensen 1995), older compared to younger business owners reported a higher priority of concerns regarding the establishment and guidance of members of the next generation than of concerns regarding their own careers and accomplishments. Business owners' generativity, in turn, was positively related to family succession.

Our study aims to contribute to the literature in several ways. First, our findings expand current perspectives in the small business literature by taking a lifespan perspective on family succession in family business settings. Succession is related to the family business owners' ageing (Marshall *et al.* 2006). However, current theoretical frameworks aiming to explain family succession do not consider constructs from the literature on ageing and developmental psychology that might act as mediating mechanisms and thus explain age-related changes (*e.g.* Marshall *et al.* 2006; Sharma *et al.* 2001, 2003). Our study extends the current literature by showing that the concept of generativity helps in understanding succession in family businesses which is an important success criterion in family business settings. Thus, using theories and concepts from the fields of ageing and developmental

psychology provided new insights and a new perspective on processes important for a considerable proportion of private enterprises.

Second, our study extends the literature on the different possible career pathways to entrepreneurship. Why some people become entrepreneurs and others do not is an important question in the entrepreneurship domain (Baron 2004). So far, three general perspectives on this question exist. First, the individual perspective proposes that people's individual characteristics, interests and personality traits exert a strong influence on whether one will become an entrepreneur (Rauch and Frese 2007; Scanlan 1980; Zhao and Seibert 2006). Second, the economic perspective suggests that macroeconomic factors, such as regional economic diversity or population growth, determine the rate to which people engage in entrepreneurship (Reynolds, Miller and Maki 1995). Third, the socialisation or social learning perspective suggests that parents act as role models and thus influence their children's career plans (Scherer *et al.* 1980). We add to this literature by showing that family business owners may also influence the career paths of their successors by being more or less generative. Thus, attempts to explain the emergence of entrepreneurs in the context of family businesses must take into consideration factors on different conceptual levels. Besides individual and economic factors, the social context in which the successor seeks to pursue a career as entrepreneur exerts a strong influence. Our results are also in line with recent findings on the role of authoritative parenting and mentoring on entrepreneurship (Ozgen and Baron 2007; Schmitt-Rodermund 2004). These findings suggest that pursuing a career as an entrepreneur depends on significant people other than the entrepreneur, such as incumbent business owners, parents and mentors who help with preparing the career path of the future entrepreneur.

Finally, an important contribution of this study is that it helps to shed light on a psychological process underlying the observed positive relationship between chronological age and a culturally important phenomenon, family succession in small businesses (Marshall *et al.* 2006). Ageing research is sometimes criticised for treating chronological age as if it was a psychologically meaningful construct by itself (Birren 1999). Our study provides an example of how to investigate and understand relationships between age and work-related outcomes more appropriately. Specifically, we treated family business owners' age as a number that is somewhat psychologically arbitrary alone, but is made more meaningful by understanding how the psychological construct of generativity explains the positive relationship between age and family succession. Thus, our study contributes to a richer understanding of the role of business owners' age in family succession above and beyond previous research (Marshall *et al.* 2006). Our findings also extend the developmental literature by showing that the

age-related construct of generativity is related to an objective outcome in small business settings, family succession.

Limitations

This study has a number of limitations. First, our cross-sectional design does not allow inferences regarding intra-individual changes in generativity across the lifespan (Van Der Velde, Feij and Van Emmerik 1998). The age-related differences between business owners may also be attributable to differences between birth cohorts (Smola and Sutton 2002). In addition, our cross-sectional design does not allow definite conclusions about the causal mechanisms connecting business owners' age, generativity and family succession. Future research needs to employ longitudinal and cohort-sequential designs to better disentangle ageing and cohort effects on family succession and to draw definite causal conclusions. Moreover, entrepreneurship researchers agree that succession is a multi-stage process rather than a single event (Handler 1989, 1994; Miller, Steier and Le Breton-Miller 2003). Again, longitudinal studies are needed to investigate these dynamics in the succession process (Miller, Steier and Le Breton-Miller 2003).

Second, our measures of generativity and family succession may be criticised. We decided to use a short, practical and work-related generativity scale to assess business owners' concerns with generativity (Zacher *et al.* 2011). We did not use the longer and widely researched LGS (McAdams and de St. Aubin 1992) because it has been criticised with regard to its construct validity by both ageing and organisational psychologists (Clark and Arnold 2008; Keyes and Ryff 1998). Nevertheless, it may be argued that our approach to assessing Erikson's (1950, 1963) notion of generativity is too narrow. Our conceptual definition and operationalisation limit generativity to a particular situational context – family business settings. Thus, we may not have captured the complexity of the processes involved in generativity as outlined by Erikson (1950, 1963) and extended by McAdams and de St. Aubin (1992, 1998) in their comprehensive theory of generativity. Similarly, even though the items of our generativity scale emphasise different aspects of business owners' generativity (concern, time and energy investment), one might argue that the items focus too homogenously on one specific aspect of generativity. In fact, our analyses showed that the internal consistency of the scale is very high (Cronbach's $\alpha = 0.96$). We think, however, that the high internal consistency of the items does not invalidate our findings. Rather, it shows that the specific aspect of prioritising the guidance of members of the younger generation over focusing on one's own career goals and accomplishments captures generativity in the way it is hypothesised by generativity theory (Erikson 1950; McAdams and de

St. Aubin 1992, 1998). Using the same measure, Zacher *et al.* (2011) showed that the items explain age-related effects in a university setting. Thus, the items capture generativity in accordance with theoretical propositions by generativity theory across different contexts. Furthermore, Zacher *et al.* (2011) provided evidence for the convergent and discriminant validity of the items. We therefore think that the scale is a valid operationalisation of the generativity construct. However, we suggest that future research could include additional items to assess a broader generativity construct or different facets of generativity.

Our one-item categorical measure of family succession is consistent with previous studies on the topic (*e.g.* Marshall *et al.* 2006) and we consider it an objective and valid measure of family succession, which minimises the potential problem of common method variance. However, future studies might want to assess additional aspects of the family succession process. Indeed, family succession is a complex process and likely to be influenced by actors and conditions inside and outside the family business (Davis and Tagiuri 1989; Handler 1994). Besides business owners' age, other factors to be considered are the age of the successor and the quality of the relationship between owner and successor (Davis and Tagiuri 1989).

Finally, the overall response rate in our study was only 16.5 per cent, which might limit the generalisability of our findings. It is important to note, however, that our sample consists of business owners heading the top management of the business. Research showed that the response rate in this group is significantly lower than in other groups (Baruch 1999). Our response rate is consistent with previous research which reported response rates between approximately 13 and 25 per cent (Hmieleski and Baron 2009; Keh, Nguyen and Ng 2007). Even more importantly, testing our sample against the population showed that our sample did not significantly differ in firm age, number of employees, firm growth in revenue and firm growth in employees. These findings suggest that our sample is representative of the population with regard to firm age, number of employees, firm growth in revenue and firm growth in employees. There was a significant difference in total revenue. Thus, our findings may not generalise to firms that generate more revenue than the firms in our sample.

Future research

Future research should investigate which factors explain the age-related increase in generativity among family business owners. So far, no empirical research exists that shows that inner desires and cultural demands indeed combine to create a growing concern for the next generation (McAdams and de St. Aubin 1992). In addition, based on socio-emotional selectivity

theory (Carstensen 1995), occupational future time perspective (Zacher and Frese 2009) might be investigated as a cognitive-motivational mediator between business owners' age and generativity concerns in the family business context. Business owners with a strong focus on future opportunities and much perceived remaining time may be less likely to hand over the business to the next generation because they perceive many occupational opportunities for themselves in the business. There may also be a number of factors that are theoretically important for the family succession process that were not tested in this study. Besides generativity, future research could include important constructs such as the transfer of tacit knowledge and social capital (Cabrera-Suárez, De Saa-Pérez and García-Almeida 2001; Steier 2001) into more comprehensive models of family succession. In addition, future research could focus on other operationalisations of age than chronological age. For example, 'subjective age' (*e.g.* how old individuals feel; Cleveland, Shore and Murphy 1997; Kooij *et al.* 2007) may also be a useful operationalisation of age.

Future research could also aim to replicate our findings in other countries and cultural contexts. Family businesses and family succession contribute importantly to the German economy (Institut für Mittelstandsforschung 2008), possibly leading to a heightened awareness of the significance of generativity in the population. It would be interesting to investigate whether similar or even stronger relationships can be found in cultures that place an even stronger emphasis on tradition, long-term planning and generativity in older people (*e.g.* many collectivistic Asian cultures). Germany is the seventh lowest ranking country among 62 countries in terms of family and in-group collectivism and the eighth lowest ranking country in terms of institutional collectivism (Gelfand *et al.* 2004). Whereas individualistic cultures such as the German culture regard individuals as independent, collectivistic societies emphasise group membership as the primary source of identity (Hofstede 2001). Hence, it would be interesting to investigate whether our findings depend on the cultural background of the business owners.

In conclusion, our study extends current perspectives on the role of age in family business settings (*e.g.* Gielnik, Zacher and Frese in press; Marshall *et al.* 2006) by showing that the developmental construct of generativity mediated the positive relationship between business owners' age and family succession. The study demonstrates that theories and concepts from the ageing and developmental literature can make a meaningful contribution towards a better understanding of the process of family succession and career decisions of potential future entrepreneurs. Additional studies taking such an interdisciplinary approach are now needed to further establish the potentially important direct and indirect effects of age and generativity on other important work and business outcomes.

References

Ackerman, S., Zuroff, D. C. and Moskowitz, D. S. 2000. Generativity in midlife and young adults: links to agency, communion, and subjective well-being. *International Journal of Aging and Human Development*, **50**, 1, 17–41.

Ambrose, D. M. 1983. Transfer of the family-owned business. *Journal of Small Business Management*, **21**, 49–56.

Astrachan, J. H., Allen, I. E. and Spinelli, S. 2002. *Mass Mutual/Raymond Institute American Family Business Survey*. Mass Mutual Financial Group, Springfield, Massachusetts.

Austrian Institute for SME Research 2008. *Overview of Family Business Relevant Issues: Final Report*. Austrian Institute for SME Research, Vienna. Available online at http://ec.europa.eu/enterprise/policies/sme/files/craft/family_business/doc/familybusiness_study_en.pdf.

Baron, R. A. 2004. The cognitive perspective: a valuable tool for answering entrepreneurship's basic 'why' questions. *Journal of Business Venturing*, **19**, 221–39.

Baron, R. A. and Tang, J. T. 2011. The role of entrepreneurs in firm-level innovation: joint effects of positive affect, creativity, and environmental dynamism. *Journal of Business Venturing*, **26**, 1, 49–60.

Baron, R. M. and Kenny, D. A. 1986. The moderator–mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, **51**, 1173–82.

Baruch, Y. 1999. Response rate in academic studies: a comparative analysis. *Human Relations*, **52**, 421–38.

Becker, T. E. 2005. Potential problems in the statistical control of variables in organizational research: a qualitative analysis with recommendations. *Organizational Research Methods*, **8**, 274–89.

Birren, J. 1999. Theories of aging: a personal perspective. In Bengtson, V. L. and Schaie, K. W. (eds), *Handbook of Theories of Aging*. Springer, New York.

Cabrera-Suárez, K., De Saa-Pérez, P. and García-Almeida, D. 2001. The succession process from a resource- and knowledge-based view of the family firm. *Family Business Review*, **14**, 1, 37–46.

Cadieux, L., Lorrain, J. and Hugron, P. 2002. Succession in women owned family businesses: a case study. *Family Business Review*, **15**, 1, 17–30.

Carstensen, L. L. 1995. Evidence for a life-span theory of socioemotional selectivity. *Current Directions in Psychological Science*, **4**, 151–6.

Carstensen, L. L., Isaacowitz, D. M. and Charles, S. T. 1999. Taking time seriously: a theory of socioemotional selectivity. *American Psychologist*, **54**, 3, 165–81.

Chua, J. H., Chrisman, J. J. and Sharma, P. 1999. Defining the family business by behavior. *Entrepreneurship Theory and Practice*, **23**, 4, 19–39.

Clark, M. and Arnold, J. 2008. The nature, prevalence and correlates of generativity among men in middle career. *Journal of Vocational Behavior*, **73**, 473–84.

Cleveland, J. N., Shore, L. M. and Murphy, K. R. 1997. Person- and context-oriented perceptual age measures: additional evidence of distinctiveness and usefulness. *Journal of Organizational Behavior*, **18**, 239–51.

Cohen, J. E. 2003. Human population: the next half century. *Science*, **302**, 1172–5.

Covin, T. J. 1994. Perceptions of family-owned firms: the impact of gender and education level. *Journal of Small Business Management*, **32**, 3, 29–39.

Curran, J. and Blackburn, R. A. 2001. Older people and the enterprise society: age and self-employment propensities. *Work, Employment and Society*, **15**, 4, 889–902.

Davis, J. A. and Tagiuri, R. 1989. The influence of life stage on father–son work relationships in family companies. *Family Business Review*, **2**, 47–74.
Davis, P. and Harveston, P. D. 1998. The influence of family on the family business succession: a multi-generational perspective. *Entrepreneurship Theory and Practice*, **22**, 3, 31–53.
de Bruin, A. and Firkin, P. 2003. Elder entrepreneurship. In de Bruin, A. and Dupuis, A. (eds), *Entrepreneurship: New Perspectives in a Global Age*. Ashgate, Aldershot, UK, 185–205.
Erikson, E. H. 1950. *Childhood and Society*. W. W. Norton, New York.
Erikson, E. H. 1963. *Childhood and Society*. Second edition, W. W. Norton, New York.
Gelfand, M. J., Bhawuk, D. P. S., Nishi, L. H. and Bechtold, D. J. 2004. Individualism and collectivism. In House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W. and Gupta, V. (eds), *Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies*. Sage, Thousand Oaks, California, 437–512.
Gersick, K., Davis, J., Hampton, M. and Lansberg, I. 1997. *Generation to Generation: Life Cycles of the Family Business*. Harvard Business School Press, Boston.
Gielnik, M. M., Zacher, H. and Frese, M. Focus on opportunities as a mediator between business owners' age and venture growth. *Journal of Business Venturing*, in press. http://dx.doi.org/10.1016/j.jbusvent.2010.05.002
Grant, A. M. and Wade-Benzoni, K. 2009. The hot and cool of death awareness at work: mortality cues, aging, and self-protective and prosocial motivations. *Academy of Management Review*, **34**, 4, 600–22.
Hambrick, D. C. and Mason, P. A. 1984. Upper echelons: the organization as a reflection of its top managers. *Academy of Management Review*, **9**, 193–206.
Handler, W. C. 1989. Methodological issues and considerations in studying family businesses. *Family Business Review*, **2**, 3, 257–76.
Handler, W. C. 1994. Succession in family businesses: a review of the research. *Family Business Review*, **7**, 2, 133–57.
Harveston, P. D., Davis, P. S. and Lynden, J. A. 1997. Succession planning in family business: the impact of owner gender. *Family Business Review*, **10**, 4, 373–96.
Haunschild, L., Wallau, F., Hauser, H.-E. and Wolter, H.-J. 2007. *Die volkswirtschaftliche Bedeutung der Familienunternehmen: Gutachten im Auftrag der Stiftung Familienunternehmen* [*The Economic Importance of Family Businesses: Report Commissioned by the Family Business Foundation*]. Institut für Mittelstandsforschung, Bonn. Available online at http://www.ifm-bonn.org/assets/documents/IfM-Materialien-172.pdf.
Heck, R. K. Z. and Trent, E. S. 1999. The prevalence of family business from a household sample. *Family Business Review*, **12**, 3, 209–24.
Hisrich, R., Langan-Fox, J. and Grant, S. 2007. Entrepreneurship research and practice: a call to action for psychology. *American Psychologist*, **62**, 6, 575–89.
Hmieleski, K. M. and Baron, R. A. 2009. Entrepreneurs' optimism and new venture performance: a social cognitive perspective. *Academy of Management Journal*, **52**, 3, 473–88.
Hmieleski, K. M. and Ensley, M. D. 2007. A contextual examination of new venture performance: entrepreneur leadership behavior, top management team heterogeneity, and environmental dynamism. *Journal of Organizational Behavior*, **28**, 7, 865–89.
Hofstede, G. 2001. *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations*. Sage, Thousand Oaks, California.

Ibrahim, A. B., Soufani, K. and Lam, J. 2001. A study of succession in a family firm. *Family Business Review*, **14**, 3, 245–58.
Institut für Mittelstandsforschung 2008. *Overview of Family Business Relevant Issues: Country Fiche Germany*. Institut für Mittelstandsforschung, Bonn. Available online at http://ec.europa.eu/enterprise/policies/sme/files/craft/family_business/doc/familybusines_country_fiche_germany_en.pdf.
Kanfer, R. and Ackerman, P. L. 2004. Aging, adult development, and work motivation. *Academy of Management Review*, **29**, 3, 440–58.
Kean, R. C., Van Zandt, S. and Maupin, W. 1993. Successful ageing: the older entrepreneur. *Journal of Women and Ageing*, **5**, 1, 25–42.
Keh, H. T., Nguyen, T. T. M. and Ng, H. P. 2007. The effects of entrepreneurial orientation and marketing information on the performance of SMEs. *Journal of Business Venturing*, **22**, 4, 592–611.
Kertesz, R. and Atalaya, C. I. 1999. Family businesses in Argentina: current issues. *Community, Work and Family*, **2**, 1, 93–103.
Kets de Vries, M. F. 1993. The dynamics of family controlled firms: the good and bad news. *Organizational Dynamics*, **21**, 59–71.
Keyes, C. L. M. and Ryff, C. D. 1998. Generativity in adult lives: social structural contours and quality of life consequences. In McAdams, D. P. and de St. Aubin, E. (eds), *Generativity and Adult Development: How and Why We Care for the Next Generation*. American Psychological Association, Washington DC, 227–63.
Klein, S. B. 2000. Family businesses in Germany: significance and structure. *Family Business Review*, **13**, 157–81.
Klein, S. B., Astrachan, J. H. and Smyrnios, K. X. 2005. The F-PEC scale of family influence: construction, validation, and further implication for theory. *Entrepreneurship Theory and Practice*, **29**, 3, 321–39.
Kooij, D., De Lange, A. H., Jansen, P. G. W. and Dikkers, J. S. E. 2007. Older workers' motivation to continue to work: five meanings of age. *Journal of Managerial Psychology*, **23**, 4, 364–94.
Kotre, J. 1999. *Make It Count: How to Generate a Legacy that Gives Meaning to Your Life*. Free Press, New York.
Lang, F. R. and Carstensen, L. L. 2002. Time counts: future time perspective, goals, and social relationships. *Psychology and Aging*, **17**, 1, 125–39.
Lansberg, I. 1991. The succession conspiracy. In Aronoff, C. and Ward, J. (eds), *Family Business Sourcebook*. Omnigraphics, Detroit, Michigan, 98–119.
Lee, J. 2006. Family firm performance: further evidence. *Family Business Review*, **19**, 2, 103–14.
Lévesque, M. and Minniti, M. 2006. The effect of aging on entrepreneurial behavior. *Journal of Business Venturing*, **21**, 177–94.
MacKinnon, D. P., Fairchild, A. J. and Fritz, M. S. 2007. Mediation analysis. *Annual Review of Psychology*, **58**, 593–614.
Marshall, J. P., Sorensen, R., Brigham, K., Wieling, E., Reifman, A. and Wampler, R. S. 2006. The paradox for the family firm CEO: owner age relationship to succession-related processes and plans. *Journal of Business Venturing*, **21**, 348–68.
McAdams, D. P. and de St. Aubin, E. 1992. A theory of generativity and its assessment through self-report, behavioral acts, and narrative themes in autobiography. *Journal of Personality and Social Psychology*, **62**, 6, 1003–15.
McAdams, D. P. and de St. Aubin, E. 1998. *Generativity and Adult Development: How and Why We Care for the Next Generation*. American Psychological Association, Washington DC.
McAdams, D. P., de St. Aubin, E. and Logan, R. L. 1993. Generativity among young, midlife, and older adults. *Psychology and Aging*, **8**, 221–30.

Mead, D. C. and Liedholm, C. 1998. The dynamics of micro and small enterprises in developing countries. *World Development*, **26**, 1, 61–74.
Miller, D. and Le Breton-Miller, I. 2006. Family governance and firm performance: agency, stewardship, and capabilities. *Family Business Review*, **21**, 73–87.
Miller, D., Steier, L. and Le Breton-Miller, I. 2003. Lost in time: intergenerational succession, change and failure in family business. *Journal of Business Venturing*, **18**, 4, 513–51.
Mor-Barak, M. E. 1995. The meaning of work for older adults seeking employment: the generativity factor. *International Journal of Aging and Human Development*, **41**, 4, 325–44.
Neubauer, F. and Lank, A. 1998. *The Family Business: Its Governance for Sustainability*. Macmillan, London.
Neugarten, B. L., Moore, J. W. and Lowe, J. C. 1965. Age norms, age constraints, and adult socialization. *American Sociological Review*, **70**, 710–7.
Newman, D. A. 2009. Missing data techniques and low response rates: the role of systematic nonresponse parameters. In Lance, C. E. and Vandenberg, R. J. (eds), *Statistical and Methodological Myths and Urban Legends: Doctrine, Verity and Fable in the Organizational and Social Sciences*. Routledge, New York, 7–36.
Ng, T. W. H. and Feldman, D. C. 2010. The relationship of age with job attitudes: a meta-analysis. *Personnel Psychology*, **63**, 3, 677–718.
Obschonka, M., Silbereisen, R. K. and Schmitt-Rodermund, E. 2010. Entrepreneurial intention as developmental outcome. *Journal of Vocational Behavior*, **77**, 1, 63–72.
Ozgen, E. and Baron, R. A. 2007. Social sources of information in opportunity recognition: effects of mentors, industry networks, and professional forums. *Journal of Business Venturing*, **22**, 2, 174–92.
Preacher, K. J. and Hayes, A. F. 2008. Asymptotic and resampling strategies for assessing and comparing indirect effects on multiple mediator models. *Behavioral Research Methods*, **40**, 879–91.
Rauch, A. and Frese, M. 2007. Let's put the person back into entrepreneurship research: a meta-analysis on the relationship between business owners' personality traits, business creation, and success. *European Journal of Work and Organizational Psychology*, **16**, 4, 353–85.
Reynolds, P. D., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., Lopez-Garcia, P., Chin, N. 2005. Global Entrepreneurship Monitor: data collection design and implementation 1998–2003. *Small Business Economics*, **24**, 3, 205–31.
Reynolds, P. D., Miller, B. and Maki, W. R. 1995. Explaining regional variation in business births and deaths – U.S. 1976–88. *Small Business Economics*, **7**, 5, 389–407.
Rogoff, E. G. 2007. Opportunities for entrepreneurship in later life. *Generations*, **31**, 1, 90–5.
Rossi, A. S. 2001. *Caring and Doing for Others: Social Responsibility in the Domains of Family, Work, and Community*. University of Chicago Press, Chicago.
Roth, P. L., Switzer, F. S. and Switzer, D. M. 1999. Missing data in multiple item scales: a Monte Carlo analysis of missing data techniques. *Organizational Research Methods*, **2**, 211–32.
Scanlan, T. J. 1980. Toward an occupational classification for self-employed men: an investigation of entrepreneurship from the perspective of Holland's Theory of Career Development. *Journal of Vocational Behavior*, **16**, 2, 163–72.

Schafer, J. and Graham, J. 2002. Missing data: our view of the state of the art. *Psychological Methods*, **7**, 2, 147–77.
Scherer, R. F., Adams, J. S., Carley, S. S. and Wiebe, F. A. 1980. Role model performance effects on development of entrepreneurial career preference. *Entrepreneurship Theory and Practice*, **13**, 3, 53–71.
Schmitt-Rodermund, E. 2004. Pathways to successful entrepreneurship: parenting, personality, early entrepreneurial competence, and interests. *Journal of Vocational Behavior*, **65**, 3, 498–518.
Shanker, M. C. and Astrachan, J. H. 1996. Myths and realities: family businesses' contribution to the US economy – a framework for assessing family business statistics. *Family Business Review*, **9**, 107–23.
Sharma, P. 2004. An overview of the field of family business studies: current status and directions for the future. *Family Business Review*, **17**, 1, 1–36.
Sharma, P. and Irving, P. G. 2005. Four bases of family business successor commitment: antecedents and consequences. *Entrepreneurship Theory and Practice*, **29**, 1, 13–33.
Sharma, P., Chrisman, J. J., Pablo, A. L. and Chua, J. H. 2001. Determinants of initial satisfaction with the succession process in family firms: A conceptual model. *Entrepreneurship Theory and Practice*, **25**, 3, 17–36.
Sharma, P., Chrisman, J. J. and Chua, J. H. 2003. Succession planning as planned behavior: some empirical results. *Family Business Review*, **16**, 1, 1–15.
Sheldon, K. M. and Kasser, T. 2001. Getting older, getting better? Personal strivings and psychological maturity across the life span. *Developmental Psychology*, **37**, 4, 491–501.
Shrestha, L. B. 2000. Population aging in developing countries. *Health Affairs*, **19**, 3, 204–12.
Shrout, P. E. and Bolger, N. 2002. Mediation in experimental and nonexperimental studies: new procedures and recommendations. *Psychological Methods*, **7**, 422–45.
Smola, K. W. and Sutton, C. D. 2002. Generational differences: revisiting generational work values for the new millennium. *Journal of Organizational Behavior*, **23**, 363–82.
Steier, L. 2001. Next-generation entrepreneurs and succession: an exploratory study of modes and means of managing social capital. *Family Business Review*, **14**, 3, 259–76.
Stewart, A. J. and Vandewater, E. A. 1998. The course of generativity. In McAdams, D. P. and de St. Aubin, E. (eds), *Generativity and Adult Development: How and Why We Care for the Next Generation*. American Psychological Association, Washington DC, 75–100.
Van Der Velde, M. E. G., Feij, J. A. and Van Emmerik, H. 1998. Change in work values and norms among Dutch young adults: aging or societal trends? *International Journal of Behavioral Development*, **22**, 55–76.
White, R. E., Thornhill, S. and Hampson, E. 2007. A biosocial model of entrepreneurship: the combined effects of nurture and nature. *Journal of Organizational Behavior*, **28**, 4, 451–66.
Zacher, H. and Frese, M. 2009. Remaining time and opportunities at work: relationships between age, work characteristics, and occupational future time perspective. *Psychology and Aging*, **24**, 2, 487–93.
Zacher, H., Rosing, K., Henning, T. and Frese, M. 2011. Establishing the next generation at work: leader generativity as a moderator of the relationships between leader age, leader-member exchange, and leadership success. *Psychology and Aging*, **26**, 1, 241–52.

Zahra, S. A., Hayton, J. C. and Salvato, C. 2004. Entrepreneurship in family vs. non-family firms: a resource-based analysis of the effect of organizational culture. *Entrepreneurship Theory and Practice*, **28**, 4, 363–81.

Zhao, H. and Seibert, S. E. 2006. The big five personality dimensions and entrepreneurial status: a meta-analytical review. *Journal of Applied Psychology*, **91**, 2, 259–71.

Accepted 20 April 2011; first published online 3 June 2011

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