Review of Managerial Science (2021) 15:287–307
https://doi.org/10.1007/s11846-019-00342-7

ORIGINAL PAPER

A chip off the old block? The role of dominance and parental entrepreneurship for entrepreneurial intention

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Received: 20 October 2018 / Accepted: 2 May 2019 / Published online: 8 May 2019

Abstract

The major aim of this article is to investigate the effect of individual dominance and entrepreneurial family background on entrepreneurial intentions (EI). By linking the EI model with social learning theory and the framework of the theory of planned behaviour, endogenous as well as exogenous factors for becoming an entrepreneur are considered simultaneously. Dominance (striving for autonomy and power) is conceptually connected with established antecedents of EI. By taking into account entrepreneurial family background, occurrence of social support (i.e. subjective norms) and effects of role modelling from childhood on competence beliefs (i.e. perceived behavioural control and dominance) are studied. Based on a sample comprising 3342 students from Austria and Liechtenstein, of whom at least one of the parents was self-employed, structural equation modelling confirms subjective norms, perceived behavioural control, and dominance as antecedents of EI. In line with previous entrepreneurship research but contrary to Ajzen's initial model, attitudes towards entrepreneurship mediated this relationship, whereas entrepreneurial family background leads to higher scores in EI and its antecedents.

Keywords Entrepreneurial intention · Dominance · Family background · Theory of planned behaviour

JEL Classification L26 Entrepreneurship · M10 General

Mathematics Subject Classification 62P15 · 91E45

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1 Introduction

In 2014, start-ups—defined as firms less than 2 years old—accounted for around 20% or more of firms in most countries (more than 30% in UK, Hungary, Brazil, and Poland; OECD 2017). Of the 14 OECD countries, nine nations show total business creations trending upwards. Especially service sector has been an important driver of firm creation. At the same time, the number of bankruptcies is declining in most of the economies surveyed. Current international data point up the economic importance of start-ups and small and middle enterprises (SME). Accordingly researchers as well as politicians emphasize the importance of entrepreneurial thinking and acting as one of the twenty-first century skills (Ferreira et al. 2019; Obschonka et al. 2016).

With regard to the starting point of a new venture, much research focuses on entrepreneurial intentions (EI). As Bird (1988) defines, EI are "entrepreneurs' states of mind that direct attention, experience, and action towards a business concept, set the form and direction of organizations at their inception" (p. 442). Thirty years after that, much is known about drivers of EI. In a nutshell, EI are an expression of an entrepreneurial mind-set (Werner et al. 2014) and are shaped by personality characteristics (Zhao et al. 2010) as well as education (e.g., Liñán et al. 2010), previous experience (e.g., Obschonka and Silbereisen 2012), and context as well as institutional influence (e.g., Fayolle and Liñán 2014).

However, different drivers for EI are up to now studied isolated and with varying intensity. Whereas the big five of personality—openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism—are used in a broad set of studies (e.g., Brandstätter 2011; Zhao et al. 2010), empirical evidence for more specific personality traits such as dominance, which has proven to be directly linked to entrepreneurial activity, is quite scarce. In addition, contextual variables influencing the development of EI are also understudied. For instance, family business background, that is having self-employed parents, is often stated as an important factor for building up EI, but seldom researched empirically (Schmitt-Rodermund 2004; Wang et al. 2011). Though, current data from GUESSS 2016 indicates children of entrepreneurs show a higher propensity to become entrepreneurs themselves (Sieger et al. 2016a). Underlying assumption is the idea of EI as developmental outcome (Obschonka et al. 2010).

Addressing this phenomenon and following the current shift from an entrepreneurs' traits perspective to a process model of entrepreneurial development (De Vries and Shields 2006; Fayolle and Liñán 2014) will help to improve our understanding why individuals engage in entrepreneurial activity and how their EI are formed. Our study contributes to this field by researching drivers for EI, which are determined long time before a prospective entrepreneur gets aware of his or her intention to start or take over a venture. In addition to attitudes towards entrepreneurship, subjective norms regarding own entrepreneurial activity, and perceived behavioural control, trait dominance complements the set of drivers.

In summary, this article considers environmental context factors and takes up a position of developable competencies instead of fixed characteristics to deepen

our understanding of the development of EI. Thereby the authors link social learning theory (Bandura 1977, 1986) with the EI model (Liñán and Chen 2009).

2 Theory and research hypotheses

2.1 Entrepreneurial Intention

EI is the origin of entrepreneurial activities and can be seen as first step in entrepreneurial process (Shirokova et al. 2016; Zhao et al. 2010). Building upon Ajzen's (1991, 2002) theory of planned behaviour (TPB), entrepreneurship research found EI to be the single best predictor of entrepreneurial activities (Kautonen et al. 2011, 2015; Krueger et al. 2000). In TPB intention is predicted by three factors: attitude towards (entrepreneurial) behaviour, subjective norms, and perceived behavioural control. Liñán and Chen (2009) explicitly state that these three antecedents are driven by human capital and demographic variables.

TPB accounts for almost 30% of the variance in behaviour (Armitage and Conner 2001; Schlaegel and Koenig 2014). Based on longitudinal survey data, the TPB is proven robust in predicting business start-up intention and subsequent behaviour (Kautonen et al. 2015). Consequentially, a growing number of studies has been using intention to predict entrepreneurial behaviour within the framework of intention-based model (Fayolle and Liñán 2014; Shirokova et al. 2016). Thereby, personal as well as situational variables showing an indirect effect on entrepreneurship through EI are identified (cf. Lee et al. 2011; Zhao et al. 2010).

While in the meantime a general economics' perspective on EI has been added (cf. Douglas and Shepherd 2002), a meta-analysis about intention for social entrepreneurship may be expected soon due to the growing number of studies dealing with this kind of ventures (cf. Koe Hwee Nga and Shamuganathan 2010; Stephan and Drencheva 2017). Already on hand are meta-analytical insights regarding an EI bias between male and female entrepreneurs (Haus et al. 2013).

Besides the discussion regarding (in)direct effects of the contextual embedding and personal context, EI is, as aforementioned, discussed and surveyed to be formed by attitude towards performing entrepreneurial behaviour, subjective norms, and perceived behavioural control (Ajzen 1991; Krueger et al. 2000). While in general, intention is seen as the most important driver of planned behaviour (Wu and Wu 2008), those three in the following discussed antecedents do not have to imperatively predict EI on the same level in all settings alike, as Ajzen and Fishbein (2004) bring forth.

Subjective Norms comprise perceived normative expectations of social reference groups such as parents, friends or fellow students whether the individual should engage in the entrepreneurial behaviour (Kautonen et al. 2015; Sieger et al. 2016b). Hence, subjective norms comprehend the perception of social pressure to perform (or not perform) as an entrepreneur (Shirokova et al. 2016).

Perceived behavioural control comprises the perceived ease (or difficulty) of performing entrepreneurial behaviour and is situational and behaviour-specific in nature (Shirokova et al. 2016). Perceived behavioural control is modelled as a contributing

factor to intention in TPB (Ajzen 1991) but may also serve as a direct predictor of behaviour (Armitage and Conner 2001). Ajzen (2002) points to a two-level hierarchical model with perceived behavioural control as the superordinate construct and self-efficacy as well as controllability on the lower level.

Attitude towards entrepreneurship describes positive (or negative) evaluation of entrepreneurial behaviour. Its impact on intention then influences behaviour (Kim and Hunter 1993; Krueger et al. 2000). Attitudes towards entrepreneurial behaviour are determined by multiple influences (Shirokova et al. 2016). Krueger et al. (2000) list individual traits, demographics, skills, and social, cultural, and financial support as potential testable antecedents of attitudes. In summary, Bagozzi (1992) highlights the relevancy to account for motivational as well as cognitive processes in the formation of attitudes. Attitudes are believed to act as mediators for influences of personal background factors and situational variables on EI (Krueger et al. 2000).

Perceived behavioural control can be seen as an individual (or: endogenous) factor for attitudes, whereas subjective norms is a situational (or: exogenous) factor. This assumption can be supported by theoretical as well as empirical findings. Perceived behavioural control has shown to be highly interrelated to attitudes (Rauch and Hulsink 2014; Schlaegel and Koenig 2014). Accordingly, considering attitudes as a mediator yielded a better explanatory power in predicting EI (Izquierdo and Buelens 2011). Perceived control has proven to be a significant predictor of workplace attitudes and work behaviour in general (Ng et al. 2006). As defined by the subjective person-organization fit (e.g., Judge and Cable 1997) individuals with high perceived control are attracted to and therefore have more favourable attitudes towards being an entrepreneur as this specific work environment requires strong beliefs in their abilities and the control over their own fate.

When individuals experience strong approval of becoming an entrepreneur and receive realistic encouragement by their social reference group, they will be more attracted to this career choice and exert greater effort (Boyd and Vozikis 1994; Liñán and Chen 2009). Subjective norms were correlated to attitudes in many entrepreneurship studies, correspondingly (Ajzen 2001; Krueger et al. 2000; Liñán and Chen 2009). In each study attitudes were interpreted as the mediator between social norms and EI (c.f. Lortie and Castogiovanni 2015).

Some entrepreneurship scholars discuss antecedents of EI as a function of life phases (Lortie and Castogiovanni 2015; Rauch and Hulsink 2014; Schlaegel and Koenig 2014; Gast et al. 2016). Noticeably, attitudes proved to be a mediator between subjective norms and EI, and perceived behavioural control and EI, respectively, especially in young student samples (Liñán and Chen 2009; Rauch and Hulsink 2014). At this stage of life attitudes are more likely shaped by social influence on the one hand and intrinsic, motivational factors and competence beliefs on the other hand. Less work experience leads to little chances to adjust one's implicit 'picture of an entrepreneur' with real work demands. Though, children of self-employed parents, who experience entrepreneurship from childhood, should be an exception.

We therefore hypothesise that

H1a Subjective norms show an indirect effect on EI via attitudes towards entrepreneurship.

H1b Perceived behavioural control shows an indirect effect on EI via attitudes towards entrepreneurship.

2.2 Dominance and entrepreneurial intention

Individual characteristics as predisposition to EI and drivers to actually initiate a business are established in entrepreneurship research (Brandstätter 2011; Davidsson and Honig 2003; Lee et al. 2011; Markman and Baron 2003; Sarooghi et al. 2014). However, psychological concepts and tools should only be applied to entrepreneurial settings in combination with a profound knowledge of business research (Davidsson 2016; Ferreira et al. 2019). Moreover, after decades of intense research on individual cognitive and personality traits, researchers (e.g., Fayolle et al. 2014; Frese and Gielnik 2014) call for the consideration of socially determined personal and cultural values, and individual motivations.

Concerning psychological variables and EI most studies refer to self-efficacy and the big five of personality and thereby focus on general and quite broad constructs. Though, recent research identified specific traits as especially valid for the prediction of general job performance (Mussel et al. 2011; Rothstein and Goffin 2006), entrepreneurial activity (Rauch and Frese 2007) and firm performance of SME (Palmer et al. 2019). Therefore considering specific facets of personality, such as dominance, over broad dimensions, such as extraversion, should contribute to a deeper understanding of psychological antecedents of EI.

In addition to the manipulation of the external environment, managing growth and innovation in small and medium enterprises requires CEOs to possess a distinct ability to take and implement decisions and strong leadership skills. Assertiveness is one of the political skills that is directly relevant for the entrepreneurial process. Personality psychology subsumes the tendency to behave in assertive, forceful, and self-assured ways under *dominance*, which is in short defined as the aspiration to have influence over others (Anderson and Kilduff 2009). Dominance is intrinsic to entrepreneurs (Miller 2015; Sexton and Bowman 1985). The competency to dominate others as the ability to direct people and processes in one's own interest enables the entrepreneur to determine entrepreneurial processes. The intention to have power over others and the authority to make decisions are seen as significant predictors for entrepreneurship (Baldegger et al. 2017; Kautonen et al. 2011; Kolvereid and Isaksen 2006; Souitaris et al. 2007).

Entrepreneurship students show higher scores of dominance compared to non-business students (Sexton and Bowman 1985). And Neider (1987) reports notably higher values of dominance for female entrepreneurs compared to general population. Dominance, defined as the ability to influence others, is related to entrepreneurs' leadership performance (Davis et al. 2010; Rauch and Frese 2000). Moreover, CEOs' dominance is directly linked to firm performance in small firms (Palmer et al. 2019).

General research on dominance has already shown how assertiveness is an antecedent to attitudes (Jonason and Lavertu 2017; Pratto et al. 1994; Treffke et al. 1992). Kolvereid and Isaksen (2006) found empirical support for dominance (having

autonomy and the power to make decisions) as antecedents to attitudes towards self-employment.

Based on findings regarding an (future) entrepreneur's dominance we propose:

H2 Dominance shows an indirect effect on EI via attitudes towards entrepreneurship.

2.3 Family background and entrepreneurial intention

Behaviour can only be fully understood when taking the context into account (Obschonka and Silbereisen 2012). Most studies about environmental antecedents for EI focus on access to capital, regional context, formal and informal country-level institutions and law, and entrepreneurship education (Lim et al. 2010; Shirokova et al. 2016). Beyond these institutional and economic factors, family background contributes as a more private environmental factor to better understand the formation of EI.

Parents play an important role in helping adolescents prepare for a career choice (Dietrich and Kracke 2009; Pizzorno et al. 2014; Porfeli et al. 2008). Having self-employed parents leads to an early entrepreneurial exposure. Early insights into entrepreneurial activity, required skills, typical challenges, and, in particular, the entrepreneurial mind-set shape attitudes towards entrepreneurship. Subjective norms and perceived behavioural control are also positively affected by having self-employed parents (Carr and Sequeira 2007; Tatarko and Schmidt 2016; Verheul et al. 2012). Accordingly, entrepreneurship research highlights the strong influence of family business background on EI and actual entrepreneurial activity (Laspita et al. 2012; Matthews and Moser 1996; Zellweger et al. 2011).

To explain the effect of family background on EI several starting points are on hand. First, family business background strengthens entrepreneurial self-efficacy which in turn mediates the relation between career adaptability and EI (Tolentino et al. 2014). Second, children of entrepreneurs are familiar with the different tasks required to fulfil as leader of the family firm. This tacit knowledge might contribute to higher entrepreneurial skills relevant for starting or growing a firm (Stuetzer et al. 2013). Third, self-employed parents serve as role models for pursuing a career as entrepreneur and are considered as environmental influence on the individual (Scherer et al. 1989). Role models affect EI by changing attitudes and entrepreneurial beliefs such as perceived behavioural control (Krueger et al. 2000) and enable learning by example (Bosma et al. 2012; Newman et al. 2018).

Furthermore, parental dominant behaviour influences children's dominance (Hetherington and Frankie 1967). Having self-employed parents, who have to be assertive on a high level, also role models children's dominance. Longitudinal studies show strong effects of sociocultural impacts, such as parental role modelling, in particular for women (Twenge 2001; Twenge and Campbell 2008).

These mechanisms illustrate the importance of observational learning in adolescence for entrepreneurial success. Social learning theory (SLT; Bandura 1977; 1986) offers a conceptual framework to systematically research entrepreneurial behaviour. In SLT social contextual factors serve as a key for learning behaviours, which are appropriate. Up to now, only few empirical studies link SLT to the development of EI and

actions by taking a life-span perspective and applying knowledge from developmental psychology (Bosma et al. 2012; Obschonka and Silbereisen 2012). Modern models of entrepreneurial behaviour include outcomes of having a family background by considering human capital, i.e. already gained experience with the development of business ideas (Lortie and Castogiovanni 2015).

We therefore expect that

H3a Entrepreneurial family background positively stimulates subjective norms.

H3b Entrepreneurial family background positively stimulates perceived behavioural control.

H3c Entrepreneurial family background positively stimulates dominance.

Further, we expect indirect effects of entrepreneurial family background on EI and therefore hypothesise that

H4a Entrepreneurial family background shows an indirect effect on EI via attitudes towards entrepreneurship and subjective norms.

H4b Entrepreneurial family background shows an indirect effect on EI via attitudes towards entrepreneurship and perceived behavioural control.

H4c Entrepreneurial family background shows an indirect effect on EI via attitudes towards entrepreneurship and dominance.

Taking together research findings for EI and their demographical, psychological, and environmental predispositions, we hypothesise (1) children of entrepreneurs show higher values in EI as their parents serve as role models of successful entrepreneurship. (2) We expect higher values for trait dominance of children of entrepreneurs, too, as their parents exemplify dominant behaviour through their life as entrepreneurs and encourage competence beliefs of their offspring. Furthermore, (3) we assume EI of children of entrepreneurs is predictable by subjective norms, perceived behavioural control (assessed as locus of control), and dominance mediated by attitudes towards entrepreneurship. We hypothesise the absence of entrepreneurial role models to impact children without self-employed parents not only by lower attitude towards entrepreneurship, subjective norms, and perceived behavioural control, but especially by showing less dominance. Figure 1 shows the conceptual model including age and sex as demographical control variables.

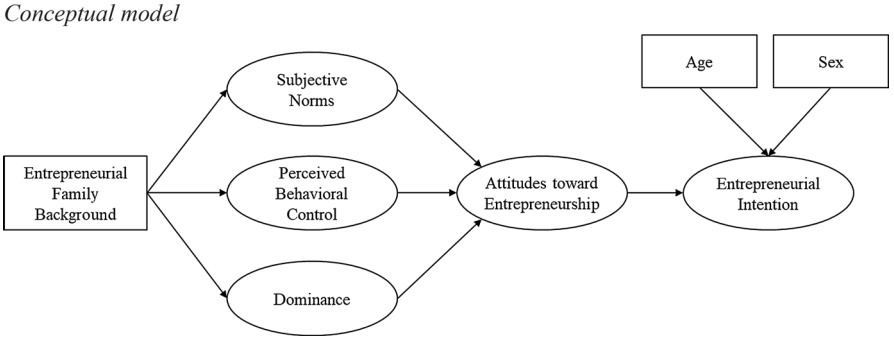

Fig. 1 Conceptual model

3 Method

3.1 Sample

Data was collected with the *Global University Entrepreneurial Spirit Students Survey* (GUESSS) 2016. Within this project, students' EI and activities around the globe are investigated considering demographic and psychological variables as well as educational background and university environment. We examined data from Austria and Liechtenstein as dominance was measured only in these two nations.

In total, 3914 students took part in the GUESSS 2016 in both countries. The sample comprises students from different fields of studies, such as law and economics (incl. business sciences), engineering (incl. computer sciences and architecture), social sciences (e.g., psychology, politics, educational science), arts/humanities (e.g., linguistics, cultural studies, religion, philosophy, history), mathematics and natural sciences as well as others (e.g., human medicine/health sciences). Half of the participants were enrolled in a bachelor program, 42.0% were studying at the master level, and 8.0% were enrolled in a MBA or PhD program. Sample data was gathered at 24 different universities. Therefore, the GUESSS 2016 data set from Austria and Liechtenstein provides a sample with various occupational interests, different levels of experience, and balanced regional specifics.

After excluding observations with missing values for any item of the dependent and independent variables a sample of 3342 students was on hand for quantitative data analysis. At least one of the parents was self-employed for 32.0% of the sample. Participants were on average 25.98 years old (SD = 4.74, range = 18–36) and mostly female (66.5%).

3.2 Measures

All variables (apart from dominance) have been assessed with scales chosen by the GUESSS project team and applied in all 50 countries taking part in this project. Items for EI, attitude towards entrepreneurship, subjective norms, locus of control,

and dominance were assessed using 7-point Likert scales (1 = strongly disagree, 7 = strongly agree; for subjective norms: 1 = very negatively, 7 = very positively). *Entrepreneurial intention* as the dependent variable was measured by a scale developed by Liñán and Chen (2009) and comprises six items (Cronbach's Alpha .97). *Attitude towards entrepreneurship* was assessed by five items (Cronbach's Alpha .94), and *subjective norms* by three items (Cronbach's Alpha .80) from Liñán and Chen (2009). With regard to previous research about EI and theory of planned behaviour (cf. Shirokova et al. 2016) locus of control is taken into account to test *perceived behavioural control*. *Locus of control* was measured by three items of Levenson (1973, Cronbach's Alpha.73). To assess *dominance*, we used the six-item scale from the CAT-PD-SF (Goldberg et al. 2006). A sample item is "I insist that others do things my way" (Cronbach's Alpha .83).

Furthermore demographical data of the entrepreneur, such as *sex* (binary coded 0 = female and 1 = male) and *age* (in years), were collected. Entrepreneurial family background was measured by having self-employed parents (binary coded 0 = no entrepreneurial parents, 1 = at least one entrepreneurial parent). We further differentiated whether one entrepreneurial parent was the father or the mother.

3.3 Construct validity

To demonstrate the discriminant validity of the five latent measures (i.e. subjective norms, perceived behavioural control, dominance, attitudes toward entrepreneurship, and EI) used in this study, we conducted a series of confirmatory factor analyses. For our proposed measurement model, results showed that all factor loadings were statistically significant (ranging from 0.85 to .95 for EI, .71 to .93 for attitudes of entrepreneurship, .67 to .91 for subjective norms, .62 to .91 for perceived behavioural control, and .53 to .82 for dominance), with an overall good measurement model fit (χ^2 (267) = 4118.96; RMSEA = .06, CFI = .94, SRMR = .04). In addition, the proposed measurement model was superior to alternative models, such as the 4-factor solution with attitudes toward entrepreneurship items and EI items loading on one common factor (χ^2 (271) = 8069.48; RMSEA = .09, CFI = .89, SRMR = .05), the 3-factor solution the items related to subjective norms, perceived behavioural control, and attitudes toward entrepreneurship loading on one common factor (χ^2 (274) = 9467.20; RMSEA = .09, CFI = .87, SRMR = .08) or the one-factor-solution all items loading on one common factor (χ^2 (277) = 20,433.08; RMSEA = .14, CFI = .71, SRMR = .12). In sum, these results indicate that the five core variables represent distinct constructs.

4 Results

4.1 Preliminary analysis

Descriptive statistics, reliabilities, and correlations of the study variables are shown in Table 1. EI was positively correlated with its prerequisites on weak to moderate

Table 1 Means, standard deviations, correlations, and reliabilities among study variables

	M	SD	1	2	3	4	5	6	7	8	9	10
Control variables												
1 Age	26.21	4.74										
2 Sex	0.35	0.48	.15**	–								
Central study variables												
3 Family background	0.33	0.47	−.12**	−.01	–							
4 Entrepreneurial father	0.27	0.45	−.11**	.00	.87**	–						
5 Entrepreneurial mother	0.16	0.37	−.08**	−.01	.62**	.36**	–					
6 Subjective norms	5.37	1.16	−.14**	.02**	.11**	.11*	.07**	(.80)				
7 Perceived behavioural control	5.38	1.02	−.04**	.02**	.05**	.05**	.02	.24**	(.73)			
8 Dominance	2.77	0.89	−.03**	.09**	.08**	.07**	.06**	.15**	.21**	(.83)		
9 Attitudes toward entrepreneurship	3.77	1.71	.00**	.19**	.10**	.10**	.06**	.44**	.18**	.24**	(.94)	
10 Entrepreneurial intention	2.94	1.84	−.00**	.20**	.11**	.11**	.06**	.37**	.16**	.23**	.86**	(.97)

Reliabilities (Cronbach's alpha) are shown in parentheses on the diagonal

Sex coded 0 for female and 1 for male

Family background coded 0 for no entrepreneurial parents and 1 for at least one entrepreneurial parent (entrepreneurial father, mother or both parents)

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

level except for attitudes toward entrepreneurship. Attitudes toward entrepreneurship were strongly correlated with EI. Correlations of sex with further study variables were small, but positive, indicating higher values in respective variables for men. Age was associated with lower subjective norms and perceived behavioural control.

4.2 Structural equation modelling

To test our hypotheses, we conducted structural equation modelling based on maximum likelihood estimation using MPlus version 7.31 (Muthén and Muthén 2015). We controlled for participants' age and sex regressed on the endogenous variables (i.e. EI, attitudes toward entrepreneurship, subjective norms, perceived behavioural control, and dominance). Overall, the hypothesised model showed a good model fit (χ^2 (281) = 4266.69, $p < .01$, $CFI = .94$, $RMSEA = .06$, $SRMR = .06$). Figure 2 presents the results of structural equation modelling.

Hypothesis 1 addressed the indirect relationship between subjective norms (H1a) and perceived behavioural control (H1b) with EI. As can be seen in Table 2, we found positive indirect effects of subjective norms and perceived behavioural control with EI via attitudes towards entrepreneurship, supporting Hypothesis 1a and 1b.

Hypothesis 2 addressed the indirect relationship between dominance with EI via attitudes towards entrepreneurship. In line with this hypothesis, we found a positive indirect effect of dominance on EI via attitudes toward entrepreneurship, suggesting that higher levels of dominance lead to more favourable attitudes towards entrepreneurship and stronger EI.

Hypotheses 3 and 4 addressed the direct and indirect relationship of entrepreneurial family background with EI and its antecedents. We found positive direct effects of entrepreneurial family background with subjective norms (H3a), perceived behavioural control (H3b), and dominance (H3c), supporting Hypothesis 3a to 3c. Further, we found positive indirect effects of entrepreneurial family background on EI via attitudes towards entrepreneurship, and subjective norms (H4a), perceived behavioural control (H4b), and dominance (H4c), supporting Hypotheses 4a to 4c. Together these results suggest that having a self-employed parent leads to stronger

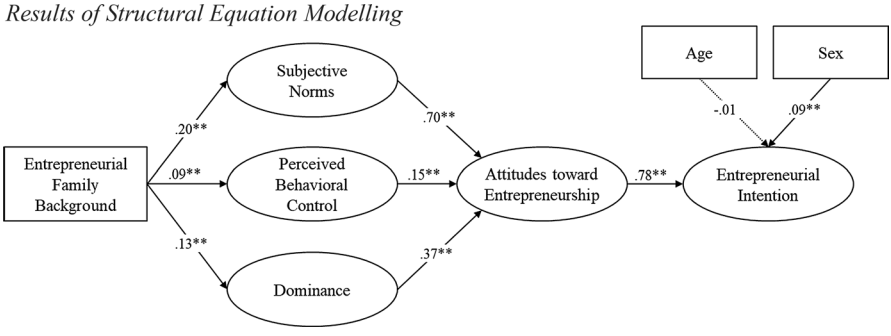

Fig. 2 Results of structural equation modelling

Table 2 Indirect effects of entrepreneurial family background on entrepreneurial intention via subjective norms, perceived behavioural control, dominance, and attitudes toward entrepreneurship with confidence intervals

Indirect effects	Entrepreneurial Intention			
	Coeff	*SE*	*CI LL*	*CI UL*
Subjective norms via attitudes toward entrepreneurship	0.54	0.02	0.50	0.59
Perceived behavioural control via attitudes toward entrepreneurship	0.12	0.03	0.06	0.18
Dominance via attitudes toward entrepreneurship	0.29	0.03	0.23	0.34
Entrepreneurial family background via attitudes toward entrepreneurship	0.16	0.04	0.08	0.25
Entrepreneurial family background via attitudes toward entrepreneurship, and subjective norms	0.11	0.02	0.06	0.15
Entrepreneurial family background via attitudes toward entrepreneurship, and perceived behavioural control	0.01	0.01	0.01	0.02
Entrepreneurial family background via attitudes toward entrepreneurship, and dominance	0.04	0.01	0.02	0.06

Coeff = unstandardized coefficient, SE = standard error, CI LL = lower level of 95% confidence interval, CI UL = upper level of 95% confidence interval

EI through more favourable attitudes towards entrepreneurship, higher subjective norms, higher perceived behavioural control, and higher dominance among children.

5 Discussion

To understand how the initial intention for an entrepreneurial career is formed is of great interest for researchers, practitioners as well as educators in entrepreneurship. This article advocates for a comprehensive view on EI. Psychological, demographic as well as environmental factors contribute to the established factors outlined in the theory of planned behaviour. The core assumption in this paper is the stimulating effect of family business background on the development of EI, and relevant traits for attitudes towards entrepreneurship, respectively.

The substantial role of attitudes towards entrepreneurship was tested with our first two hypotheses. In line with hypothesis 1, attitudes towards entrepreneurship have proven to mediate the relationship between subjective norms and EI, and behavioural control and EI, respectively. Therewith the significance of attitudes towards entrepreneurship, subjective norms, and perceived behavioural control for explaining EI is replicated. However, in contrast to the original model of the TPB, attitudes towards entrepreneurship act as a mediator between subjective norms and perceived behavioural control on the one hand and EI on the other hand. This finding is in line with previous findings from organizational literature (Boyd and Vozikis 1994; Hartmann and Rutherford 2015; Izquierdo and Buelens 2011; Johnson et al. 2008; Judge and Cable 1997; Liñán and Chen 2009; Ng et al. 2006) as well as other areas of research (cf. Han and Kim 2010 for tourism; Hood and Shook 2014 for condom use; Lin 2014 for reading citizen journalism news; Shahanjarini et al. 2010 for snacking behaviour).

Explanations for the mediating role of attitudes towards entrepreneurship are theoretical in nature as well as of methodological background. Firstly, our sample consists of young adults. The antecedents of EI still develop in this age cohort. Especially work-related aspects, such as subjective norms regarding an entrepreneurial career and attitudes toward entrepreneurship, form at the transition from adolescence to early adulthood. Young adults have to find out at first, if they dare to pursue a career as entrepreneur. Correspondingly, Obschonka et al. (2016) identified early life competencies, which mediated the relation between personality (e.g., perceived behavioural control) and EI: Self-esteem and leadership. Self-esteem is of special interest here as it represents the overall value that one places on oneself as a person and therefore is the most fundamental manifestation of core self-evaluations, besides generalized self-efficacy, internal locus of control, and emotional stability (Judge et al. 1997). In other words, self-esteem is the attitude towards self (Greenwald and Banaji 1995) and comes along with general competence beliefs. In turn, attitudes towards entrepreneurship involve more specific competence beliefs. Though, the development of both attitudes is shaped by the approval and support by close social contacts, such as those from family environment (Liñán and Chen 2009; Orth 2018). Hence, subjective norms and perceived behavioural control are expected to contribute to the development of attitudes towards a specific vocational

field, such as entrepreneurship. This assumption is supported by empirical findings and methodological considerations. Liñán and Chen (2009) show the indirect effect of subjective norms via attitudes on EI. At the same time, the authors point out that regression analyses are not the adequate method to research TPB in entrepreneurship. Schlaegel and Koenig (2014) provide additional evidence for attitudes towards entrepreneurship as mediator between subjective norms and perceived behavioural control on the one hand and EI on the other hand. The multicollinearity between attitude towards entrepreneurship and perceived desirability (the originally postulated mediator) in the SEM investigating antecedents of EI points to highly correlated and thereby exchangeable variables in the model. That means attitudes towards entrepreneurship mediate the relationship between EI and more distal variables, such as perceived behavioural control and social support (subjective norms).

Entrepreneurship psychology already emphasized the significance of personality traits for the development of EI's antecedents (Obschonka et al. 2016). The direct effect of dominance on attitudes towards entrepreneurship that has been tested with hypothesis 2 adds empirical evidence for this assumption—particularly as the direct effect on attitudes towards entrepreneurship is even stronger for dominance than for perceived behavioural control. To understand why dominance as a basic and rather general personality trait positively affects attitudes towards the specific occupational activity of entrepreneurs, several explanations are at hand.

First, dominance is related to achievement motivation (Ames and Flynn 2007), which plays an important role for EI (Carsrud and Brännback 2014) and entrepreneurial behaviour (Collins et al. 2004; Stewart and Roth 2007). Second, dominance is closely linked to both afore mentioned mediators between personality and EI, self-esteem and leadership. Referring to Maslow's (1936, 1937) work, Sexton and Bowman (1985) understand dominance feelings as actually identical with self-esteem that is internalized in early life. For example, low dominance predicts later self-esteem decreases in boys (Weidmann et al. 2018). The second aspect of dominance, dominant behaviour, is, in turn, associated with control and directiveness (Sexton and Bowman 1985) and thereby leadership (Anderson and Kilduff 2009), which corresponds to the second mediator.

Besides the inclusion of dominance into the EI model, this paper spotlights the beneficial impact of entrepreneurial family background on EI. Dyer and Handler (1994) as well as Dunn and Holtz-Eakin (2000) emphasize the general importance of parental role models in the motivation of children to take over family businesses, which is supported by Chlosta et al. (2012) for the setting of self-employment. Prior findings revealed higher levels of EI for individuals having self-employed parents (Obschonka et al. 2016; Schmitt-Rodermund 2004). Hypotheses 3 and 4 of this study indicate the origins of higher EI levels for entrepreneurs' offspring. According to SLT early exposure to entrepreneurship by family background stimulates the development of perceived behavioural control and dominance and comes along with supporting subjective norms. In addition to these direct effects of EI's antecedents, indirect effects of having an entrepreneurial family background on EI were found via attitudes towards entrepreneurship and the three antecedents. Parents' emotional support and encouragement in developing EI is reflected in higher subjective norms for children with entrepreneurial parents. Furthermore, self-employed parents serve

as role models who fortify their children to develop entrepreneurship specific interests and competences (Schoon and Duckworth 2012), such as leadership and dominance (Schmitt-Rodermund 2004), and thereby strengthen their perceived behavioural control. These findings illustrate the importance to take a life-span perspective on the development of EI. Early exposure to entrepreneurship by continuous observation of parents' entrepreneurial behaviour and potential early participation in their firm (part-time or temporary jobs, internship etc.) directly affects antecedents of EI, attitudes towards entrepreneurship and finally EI itself (Conner and Armitage 1998).

5.1 Limitations and implications for practice and theory

This study is prone to a number of limitations, which should be targeted in future research. Firstly, this study relies on self-reported data only. But since intentions are intrinsic by nature, intention levels have to be self-reported by definition (Kautonen et al. 2015). Secondly, dominance was only assessed on children's level. To test whether higher dominance scores of children have a hereditary origin, parents' dominance levels should be considered. However, Lindquist et al. (2015) tested the differential contributions of 'nature and nurture' with a sample of Swedish adoptees and found strong evidence for the superiority of post-birth effects (nurture; i.e. parenting style, role modelling) over pre-birth effects (nature; i.e. biological and genetic factors) for the intergenerational transfer of entrepreneurship among adoptees. Therefore it is assumed that higher levels of EIs and factual entrepreneurial behaviour derive from family background via role modelling, parents' values and social support, and parenting style. Thirdly, this study is limited to data from Austria and Liechtenstein. Amongst others, Obschonka et al. (2013) point to regional differences in the entrepreneurial profile. For instance, extraversion—the big five personality dimension dominance is integrated—shows a week correlation with self-employment status in Germany compared to medium correlations in UK or USA. Hence, international samples should be used in future studies. Fourthly, to improve our understanding of the development of EIs future studies should be based on longitudinal data. Taking a life-span perspective on EI should by no means stop the moment EIs are formed, but rather include data regarding the shift from intentions to actual behaviour and an individual's handling of entrepreneurial success (or failure) in later years.

Several implications for entrepreneurship researcher as well as for practitioners can be drawn from this study's results. Firstly, the probability of children to become entrepreneurs increases by about 60% when having an entrepreneurial family background (Lindquist et al. 2015). As the investigation of antecedents to EI shows, future research should take parental entrepreneurship into account for a better understanding of the mechanisms underlying the development of EI and the factual choice to pursue an entrepreneurial career.

Secondly, biographical data like age and sex only seem relevant for children without self-employed parents. Especially in respect of the latter, future research is needed to enhance the recently slightly blurred debate on women's entrepreneurship research for better understand the impact of the traditionally framing of

entrepreneurship as a masculine career (Ahl 2006; Henry et al. 2016) on EI and its antecedents.

For practitioners different foci are directed in facilitation and training of EI and behaviour depending on family background of probable entrepreneurs. Therefore, the fourth implication would be, to associate prospective entrepreneurs with capable role models for successful entrepreneurial activity. Based on findings from developmental psychology, exposure to entrepreneurial context and mentors is advised at the earliest possible date, i.e. during school education or internships. Zapkau et al. (2015) demonstrated that work experiences in small or newly founded firms heightens individuals' attitude towards starting a business. However, it should be noted that the modifiability of the antecedents of EI differs in magnitude. Despite an increase of social dominance until 40 years of age (Roberts et al. 2006), dominance is a quite stable personality trait and thereby not trainable to the extent of subjective norms or perceived behavioural control. Hence, dominance might account for differences in EI though individuals share the same positive and supporting environment (subjective norms) and are trained in their competence beliefs and (entrepreneurial) self-efficacy.

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