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Advancing the Psychology of Entrepreneurship:

A Review of the Psychological Literature and an Introduction

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Abstract

This article provides a narrative review of psychology of entrepreneurship research published in leading psychology journals, based on which we develop an organising framework for future psychological contributions to this field. Furthermore, we introduce the manuscripts collected in this special issue. Our review identified five research areas, broadly corresponding with basic psychological domains, namely personal differences; careers; health and well-being; cognition and behaviour; and leadership; as well as three cross-cutting themes: gender issues; genetic and biological foundations; and context. With the aim to stimulate integration across different approaches and disciplines, we propose a framework to understand how psychologists can offer innovative contributions to the multi-disciplinary entrepreneurship literature. This includes a focus on the entrepreneur embedded in and in interaction with his or her immediate and wider context; attention to different types of entrepreneurs; and a focus on dynamic within-person processes evolving over time.

Keywords: entrepreneurship, psychology, review, personality, career, work stress, leadership

Advancing the Psychology of Entrepreneurship: A Review of the Psychological Literature and an Introduction

Entrepreneurship is an important area of research. Entrepreneurs are significant for our economies, they contribute to job creation, productivity and economic growth (Van Praag & Versloot, 2008). Entrepreneurship, especially social entrepreneurship, has the potential to deliver innovative solutions to challenges facing our societies to date such as social exclusion and climate change (Stephan, Patterson, Kelly, & Mair, 2016). Finally, for the individual entrepreneur entrepreneurship can be a highly satisfying career choice (Binder & Coad, 2013). As we aim to highlight in this paper, psychologists can make important contributions to entrepreneurship, for instance advancing our understanding of the drivers of entrepreneurial career choice and entrepreneurial success. In turn, researching entrepreneurship can also offer new insights to psychology. For instance, entrepreneurs' activities exemplify many aspects characterizing ongoing changes in the world of work, such as increased uncertainty, responsibility, time-pressure, flexibility and insecurity, to be addressed through individual proactivity. In addition, in the early phases of a business there are few or no standards and routines in work roles. This provides researchers the opportunity to investigate how entrepreneurs shape their careers, organizations and environments in unique ways.

The psychology of entrepreneurship is a relatively young research field that has much to offer to the understanding of successful entrepreneurship in all of its facets (economic, social, personal and societal). It has made progress in the past decades, yet as we will highlight, there are still significant opportunities for novel contributions. The aim of this review article and special issue is to contribute to the development of the field in several ways: (1) by taking stock of existing psychology of entrepreneurship research, reflecting on its strengths and weaknesses, (2) by offering an organizing framework for research in this

field, (3) by introducing innovative manuscripts through this special issue that may inspire scholars to study entrepreneurship.

We start this article with defining entrepreneurship followed by a narrative review of ‘psychology of entrepreneurship’ research published in *leading psychology journals*. Our review focusses on mapping existing and emerging research themes as well as the methodologies employed. It complements an excellent review of meta-analytic studies of psychological predictors of business creation and performance (Frese & Gielnik, 2014) as well as a recent review of contributions published in management, business and entrepreneurship journals (Omoredede, Thorgren, & Wincent, 2014). Leading on from our review, we propose a novel, organizing framework for studying entrepreneurship from a psychological perspective. Next, we provide an overview of all manuscripts that were submitted for publication in this special issue and introduce the accepted articles.

Defining Entrepreneurship

Broadly two types of definitions of the terms entrepreneur and entrepreneurship are prevalent in the literature. The first type focuses on entrepreneurs as an *occupational category*. Here, entrepreneurs are defined to include the self-employed and business owner-managers (Van Praag & Versloot, 2008) as opposed to being employed by others or unemployed. Thus entrepreneurship entails the combination of ownership and control (i.e. being the main manager of a business). Some suggest that entrepreneurs are specifically those business-owner managers who also founded their business (Rauch & Frese, 2000). Our review suggests that the ‘occupational category’ approach continues to be popular in entrepreneurship research published in psychology journals, perhaps due to the relative ease with which entrepreneurs can be sampled based on this approach (e.g., most household panel studies include the ‘self-employed’ as an occupational category).

A second type of definition focusses on *entrepreneurial action and processes*. In the entrepreneurship literature, processes related to the identification and/or creation and exploitation of opportunities are seen central to entrepreneurship (Shane & Venkatraman, 2000). However, what an opportunity is has been subject to debate, especially whether opportunities objectively exist or necessarily entail ‘imagination’ by the entrepreneur; leading to calls to use more specific concepts (e.g. business idea) other than opportunity (Davidsson, 2015; 2016). Often the opportunity identification/creation perspective implies creating ‘something new’ i.e. introducing novelty in the market place through entrepreneurial action (Lumpkin & Dess, 1996). This reflects the important economic function of entrepreneurship. Introducing new products, services, process or business models helps the market and the economic system to remain competitive and develop (Schumpeter, 1934).

Aspects of entrepreneurship such as the agency and uncertainty it involves, felt responsibility, and decision-making freedom appear more relevant than novelty from the perspective of psychology, which as a discipline is focussed on understanding intra- and inter-individual processes of action. This is exemplified in Hisrich's (1990, pp. 209) definition of entrepreneurship as “... the process of creating something different with value by devoting the necessary time and effort, assuming the accompanying financial, psychic, and social risks, and receiving resulting rewards of financial and personal satisfaction”.

Independent of different emphasizes, scholars across disciplines would agree that entrepreneurship is a process that evolves over time and includes different phases from forming an intention, starting-up, scaling-up, stabilizing and managing the business, exit and potential re-entry (cf., Baron, 2002; Frese, 2009). These phases are largely descriptive of the process at the level of a particular firm, and help to reflect on the different challenges and tasks entrepreneurs face over the lifetime of a firm. This implies that different psychological

variables are likely to predict ‘success’ or performance in each phase. Notably, any single entrepreneur might be at one time intending to open a business while also currently scaling-up or closing another business. Yet identifying entrepreneurial phases allows researchers to differentiate key activities associated with each phase, which then can be the focus of more fine-grained analyses. Indeed, unpacking and understanding entrepreneurs’ activities and actions and their constituent parts at an intra-individual-level, i.e. focussing on the so-called micro-foundations of entrepreneurship, is an area where psychologists in particular can make significant contributions (Frese, 2009; Shepherd, 2015). Overall, the different definitions of entrepreneurship draw attention to the need for researchers to carefully define the population and the phase of entrepreneurship they study to contextualize results.

Review of the Literature

Our literature review included articles published (including advanced online) in the period 2000 – 2015 in psychology journals with a one or five year impact factor of 1.5 or above during that time period (as identified by the Social Science Citation Index). These are (in alphabetical order): Applied Psychology: An International Review; European Journal of Social Psychology; European Journal of Work and Organisational Psychology; Group and Organisation Management; Journal of Applied Psychology; Journal of Behavioral Decision Making; Journal of Business and Psychology; Journal of Career Assessment; Journal of Career Development; Journal of Managerial Psychology; Journal of Occupational and Organizational Psychology; Journal of Occupational Health Psychology; Journal of Organizational Behavior; Journal of Personality; Journal of Personality and Social Psychology; Journal of Vocational Behavior; Leadership Quarterly; Organisational Behavior and Human Decision Making; Personality and Individual Differences; Personnel Psychology; Research in Organisational Behavior; Social Psychology Quarterly; Work & Stress. The

search terms used for the electronic search per journal were “entrepreneur*”, “business owner*”, and “self-employed” in title, abstract, key words or full text.

All manuscripts were screened by the authors to verify if the main topic indeed related to entrepreneurship, self-employment or business ownership, or that it concerned a psychological study using a self-employed sample. Sociological contributions and articles merely mentioning entrepreneurs, for example in the discussion section, were excluded (N = 9). In total 142 articles were analysed. Figure 1 shows the number of articles that were identified by their year of publication. It is evident that the number of articles is steadily increasing, with peaks around the year 2000, when the special issue by Frese, Chell and Klandt (2000) appeared in the European Journal of Work and Organisational Psychology, and the year 2010, when a relatively large number of manuscripts was published across the different journals. In the next step, the authors coded the 142 articles to classify them based on the topic of the study and the research designs used¹. A table of the articles per journal per year and a table including information on the method, sample size and summary of the most important outcomes per reviewed article are included in the online additional material.

Our review identified five broad areas of past research on the psychology of entrepreneurship, which roughly correspond to broad domains of psychology. They are in order of frequency: *careers perspective*, *personal differences*, *health and well-being*, *cognition and behavior*, and *entrepreneurial leadership*. The four most popular areas overlap with the themes identified in the review of the business literature including personality, cognition, emotion, attitude and self (Omoredede et al., 2015), although there are differences in scope and focus. Additionally, three cross-cutting themes were identified, which combined the above areas with other domains of psychology as a binding factor. These are studies on

¹ Reviewed articles are included in the reference list marked with an asterisk.

gender issues, studies investigating *genetic and biological foundations of entrepreneurship*, and studies focussing on how different aspects of *context* shape entrepreneurship.

The largest number of studies explored entrepreneurship from a *careers perspective*, which highlights how entrepreneurial careers unfold over time. Studies investigate how individuals transition in and out of entrepreneurship as an occupation (Chevalier, Fouquereau, Gillet, & Demulier, 2013; Niessen, Binnewies, & Rank, 2010), the factors underlying the career choice for entrepreneurship (as opposed to other employment options, e.g. Chan, Uy, Chernyshenko, Ho, & Sam, 2015), the drivers of entrepreneurial success, as well as interventions supporting the entrepreneurial career choice. Careers studies were diverse in terms of research models and methods. Consistent with the focus on careers unfolding over time, this research stream had a relatively large percentage of longitudinal studies (24 percent) and qualitative (case) studies (14 percent).

Studies of entrepreneurial career choice and success showed some similarity to studies in the personality research stream (see below). However, career studies often adopted more complex models than the latter and investigated personality traits in combination with abilities/competences and interests/motives as further aspects of personality as well as included longer-term predictors. For instance, they examined the influence of individuals' family and social environments, early entrepreneurial or leadership experiences, and attitudes towards entrepreneurship alongside personality variables (e.g., Obschonka, Silbereisen, & Schmitt-Rodermund, 2010; Schmitt-Rodermund, 2004).

A substantial number of studies employed the theory of planned behavior (Ajzen, 1991) as a framework to understand entrepreneurial career choice (e.g., Moriano, Gorgievski, Laguna, Stephan, & Zarafshani, 2012), sometimes in combination with personality traits and identity theory (e.g., Obschonka, Goethner, Silbereisen, & Cantner, 2012). Other studies

sought to understand specific motives, competencies and career attitudes including attitudes towards the boundaryless career as antecedents of entrepreneurial career choice (Kyndt & Baert, 2015; Uy, Chan, Sam, Ho, & Chernyshenko, 2015). Several studies investigated a broader range of outcomes such as the development of an entrepreneurial identity, entrepreneurial competencies, re-employment and vocational rehabilitation success (e.g., Hodzic, Ripoll, Lira, & Zenasni, 2015; Yamamoto & Alverson, 2014).

Finally, this research area included intervention studies to enhance entrepreneurial inclinations (Hodzic et al., 2015; Schroeder & Schmitt-Rodermund, 2006), to help ailing self-employed to return to work (Blonk, Brenninkmeijer, Lagerveld, & Houtman, 2006), and of mentoring programmes supporting entrepreneurs (St-Jean & Mathieu, 2015; Waters, McCabe, Kiellerup, & Kiellerup, 2002). In sum, research in the area of entrepreneurial careers has provided diverse insights on a range of topics, although studies focussing on the early phases of the entrepreneurial process are most common.

The second largest number of publications employed a *personal differences approach* to understand ‘who’ becomes an entrepreneur and to predict entrepreneurial success and survival. The popularity of this approach is reflected in the large number of publications (Figure 1) and literature reviews including meta-analyses and conceptual contributions (11 in total). The focus in this research area is on personality traits, i.e. typical ways of thinking, feeling and behaving. Narrow traits relevant to the tasks involved in entrepreneurship show stronger relationships with business creation and performance as compared to broad traits such as the Big Five personality dimensions. Self-efficacy, achievement motivation, proactive personality, and innovativeness are the narrow traits that are most strongly related to entrepreneurship (see Frese & Gielnik, 2014 for an overview of relevant meta-analytic findings).

In addition, our review indicated several trends, including increasing attention to so-called ‘dark side’ traits such as narcissism and psychopathology (Akhtar, Ahmetoglu, & Chamorro-Premuzic, 2013; Mathieu & St-Jean, 2013), which attract increasing interest in personality research in general (Harms & Spain, 2015; Schyns, 2015). Another trend are studies of individual differences in cognition and abilities such as entrepreneurs’ cognitive style and practical intelligence (Armstrong & Hird, 2009; Baum, Bird, & Singh, 2011). Abilities and also interests are two key aspects of personality that shape behaviour alongside traits and which are well established in psychology. Finally, one study aggregated personality profiles to the level of regions and states and correlated those with entrepreneurship indicators (Obschonka, Schmitt-Rodermund, Silbereisen, Gosling, & Potter, 2013).

Despite the relative maturity of research on entrepreneurial personality (as indicated by the existence of a number of meta-analyses) and the impressive progress it has made, it is noticeable that the various meta-analyses summarize predominantly cross-sectional studies. This trend is continued in the primary studies identified in our review, only seven of which employed longitudinal designs (e.g., Korunka, Kessler, Frank, & Lueger, 2010; Nieß & Biemann, 2014). In addition, only a small number of studies explored contextual conditions under which certain personality traits may be particularly beneficial, or unpacked the mediating mechanisms through which traits influence business creation, success and survival (Baum & Locke, 2004; Korunka et al., 2010; Rooks, Sserwanga, & Frese, 2014). Such studies are particularly valuable to help uncover the heterogeneity of personality effects observed across the various meta analyses (Frese & Gielnik, 2014), and advance our understanding of when and how personality matters for entrepreneurship.

The third largest research area concerned *entrepreneurs’ health and well-being*. Studies in this research area investigated both predictors and outcomes of entrepreneurs’

mental and physical health and well-being. The area was characterized by a relatively large percentage of longitudinal studies (27 percent). Studies employed both between-individual designs as well as within-individual designs. Articles typically dealt with questions of how entrepreneurs' working conditions relate to their health and well-being. Building on the popular Job Demands Control Support Model (Karasek & Theorell, 1990) from occupational health psychology, studies provide evidence for both motivational processes and energy depleting processes. For example, using between-individual designs, entrepreneurs' jobs have been characterized as "activating", meaning they are both demanding but also provide high autonomy and decision latitude (Stephan & Roesler, 2010), because of which entrepreneurs (as compared to other occupational groups) often experience positive mental and physical health consequences. In addition, studies employing within-individual designs using experience sampling methods, showed that self-employed workers experienced more strain during periods of high demands and low control as compared to periods with lower demands and high control (Totterdell, Wood, Wall, & Totterdell, 2006).

Studies have also investigated relationships between well-being and (business) performance. These studies emphasized the role of affect and motivation in the well-being performance link. For example, a three-wave longitudinal study showed impaired mental health of Dutch agricultural entrepreneurs predicted poorer objective economic business prospects, which was partly due to lower investment decisions (Gorgievski, Bakker, Schaufeli, van der Veen, & Giesen, 2010). Building on the affect infusion model, a daily diary study among 46 entrepreneurs participating for 46 days (Foo, Uy, & Baron, 2009) found that negative affect predicted effort on tasks immediately required, whereas positive affect predicted effort for long term goals. A longitudinal study by Cardon and Patel (2013) reported evidence for a concurrent motivational and energy depleting processes. Higher stress levels predicted both higher income and more physical health complaints over four years of time.

In sum, results in this field provided insights into possible interactions between entrepreneurs and their work context over time, with entrepreneurs' affect, well-being and motivation as key to this interaction. This aligns with a current trend in positive organisational psychology to investigate interactions between work and organizational characteristics, cognitive-motivational and affect-related processes, and pro-active work behaviour as an extension of traditional research on job stress and work design (Bakker & Demerouti, 2014; Parker, 2014).

The fourth largest research area concerns *cognition and behaviour*, focusing on the role of mental processes in entrepreneurial decisions and actions. In line with the cognitive psychology tradition that this area builds upon, research in this area includes a substantial number of experiments and vignette studies (in our review 27 percent). Such studies aimed to unravel behavioural processes, such as investigating the role of active information seeking, entrepreneurial experience and divergent thinking in the process of opportunity identification (Gielnik, Krämer, Kappel, & Frese, 2014). Studies also linked specific cognition related personality characteristics to behavioural outcomes. For example, an experiment showed that self-confidence interacted with decision type (business related as opposed to other types of decisions) in predicting higher risk-taking (Macko & Tyszka, 2009). Finally, studies in this area also addressed the connection between entrepreneurs and their immediate environment. Examples are a lab study by Huang, Frideger and Pearce (2013), which found that pitching a business idea with a non-native accent negatively influenced evaluators' decisions to invest in a new firm, or an experiment testing conditions under which people may under- or overestimate their competition (Moore & Cain, 2007). To conclude, studies on cognitive and behavioural processes have the potential to provide important insights by opening up the black box between personality and performance outcomes, as well as studying processes that link the entrepreneur to his or her environment.

The fifth research area is *entrepreneurial leadership*. Although conceptual contributions highlight linkages between entrepreneurship and leadership research (e.g., Cogliser & Brigham, 2004), our review identified only five empirical studies in this area. Only one of these studies used a multi-level design (investigating entrepreneurs and their employees). The other four studies focussed on the firm-level and explored how different leadership styles and practices of individual entrepreneurs (and founding teams) relate to firm performance outcomes typically in cross-sectional designs. Three studies investigated leadership concepts that are well-established in organizational behaviour research including transformational, transactional, empowering, and directive leadership (Bernhard & O'Driscoll, 2011; Ensley et al., 2006; Hmieleski & Ensley, 2007). Other studies focussed on more entrepreneurship-specific leadership practices, for example, entrepreneurial vision and its link with the strategic orientation of the firm and firm performance (Ruvio, Rosenblatt, & Hertz-Lazarowitz, 2010). The one multi-level study looking 'inside the firm' found that family entrepreneurs' leadership style positively related to their employees' organizational commitment, job satisfaction and reduced turnover intentions; through instilling feelings of psychological ownership for the family firm (Bernhard & O'Driscoll, 2011). Overall, the leadership perspective appears underutilized in psychology of entrepreneurship research, especially in terms of exploring the effects of entrepreneurs as leaders on their employees.

As concerns the cross-cutting themes, psychological research on *gender and entrepreneurship* has the potential to provide deeper insights into the descriptive results of much contemporary entrepreneurship studies comparing female to male entrepreneurs. For example, a review of the gender and entrepreneurship literature revealed how societal attributions and socialization processes can create barriers for women at all phases of the entrepreneurial process (Sullivan & Meek, 2012). An experiment by Gupta, Turban and Bhawe (2008) based on stereotype activation theory showed men had stronger entrepreneurial

intentions in general. This gender difference disappeared when entrepreneurship was presented to participants as gender neutral, but not when it was presented as feminine. Once in business, women tend to have less formal power in their firms, as indicated by the relative lower frequency of combining the CEO and chair role, as compared to combining the role of CEO and president (Muller-Kahle & Schiehl, 2013). Besides their practical relevance for supporting female entrepreneurs, the results of these gender studies in entrepreneurship inform on the reasons behind the differences between female and male entrepreneurs.

Studies with a *genetic and biological foundation* aim to find evidence for a biological or genetic basis of entrepreneurial behaviour. For example, a twin-study among 855 identical versus 851 fraternal twins suggests evidence for a genetic component in opportunity recognition (Nicolaou, Shane, Cherkas, & Spector, 2009). Another study showed testosterone was related to the new venture behaviour of 120 male MBA students, which was mediated by their risk taking propensity (White, Thornhill, & Hampson, 2006). In addition, a study among 1285 identical and 848 same sex fraternal twins showed women's tendency to become an entrepreneur was influenced by genetics but not by shared environmental factors, whereas for men, no evidence was found for a genetic influence, but shared environmental factors played an important role (Zhang et al., 2009). Overall, the genetic differences are small but validate the personal differences approach focusing on related personality traits.

Finally, a number of studies could be identified focusing on *different layers of context*—team, local and community, industry, and national—within which individual entrepreneurs are embedded. First, several studies focussed on the relationship between team processes, team composition and firm level outcomes. For example, a study among 154 members of 66 new venture top management teams (Ensley & Pearce, 2001) found that shared cognition, which is thinking at the group level, was a predictor of firm revenue and

growth. In another study, new venture team composition was associated with business distress (DeVaughn & Leary, 2010). Second, local and community context were the focus of two studies. Comparing entrepreneurs in a more static, collectivist rural environment with a more dynamic, individualistic urban environment, Rooks et al. (2014) found that location moderates the effects of entrepreneurs' proactive personality on firm innovation. Another study investigated influences of entrepreneurs' social capital and communal orientation as an aspect of a supportive socio-cultural context (Khayesi & George, 2011). Third, several leadership studies investigated industry context. For example, the effects of leadership and top management team heterogeneity on new venture performance were contingent on the dynamism (vs. stability) of the industry a new venture operated in (Hmieleski & Ensley, 2007). Another study showed that entrepreneurial visions related to venture performance through different types of organizational strategies in the social/non-profit sector as compared to entrepreneurs in the for-profit sector (Ruvio et al., 2010). Finally, a small number of studies explored regional and national culture. Such studies found, for example, that national culture influences the strength with which social norms relate to entrepreneurial career intentions (Moriano et al., 2012) and the status of entrepreneurship within a society (Malach-Pines, Levy, Utasi, & Hill, 2005). Overall, the entrepreneurship-context link appears still largely under-researched, and a coherent theoretical framework to make sense of the different levels and types of contexts is lacking. As context can act as an important boundary condition, we see this as a fruitful area for future research.

To conclude, this review shows the contributions in psychology journals have addressed a number of research areas linked to different psychological traditions—each with their own merits and blind spots. With the aim to inspire future research, we next develop a framework drawing on insights from the review and the strengths of the different research areas.

A Tentative Framework for Psychological Entrepreneurial Research

It is our starting point that psychologists can make the most significant contributions to the field of entrepreneurship by focussing on the person of the entrepreneur or entrepreneurial teams. Building on our review, we identified three innovative elements psychologists could bring to entrepreneurship research, which are represented as separate dimensions in our framework (See Figure 3). First is employing a multi-level perspective (Dimension A), investigating within-individual processes, between-individual differences, and interactions between individual entrepreneurs and their immediate (teams, units and organisations) and wider context (regions or countries). Second is investigating those multilevel processes across the different phases of the entrepreneurial process (Dimension B). Third is investigating different types of businesses, understood here as a proxy for the identity, goals and start-up motives of the entrepreneur. Examples are necessity, social, family or high-growth businesses (Dimension C). We now describe the model along the different nested levels of Dimension A (see Figure 3).

Within person perspective. One way for psychologists to advance entrepreneurship research would be by shifting focus from the rather static, between-person approaches towards dynamic person-by-situation interactions and processes of within-individual change, development, learning and adaptation over time. Such research investigating the dynamic interplay between the entrepreneur and his or her environment builds upon the premise that entrepreneurship is defined by the actions of the entrepreneur (c.f. Frese, 2009; Shepherd, 2015). As concerns dynamic, within-person processes, much is still unexplored and possibilities for contributions are vast – across all phases of the entrepreneurial process (Dimension B) and different business types (Dimension C). Such processes can be investigated through the use of experience sampling methods (Uy, Foo, & Aguinis, 2010),

which is still only a recent addition to entrepreneurship research. They complement experimental research on affect, cognition and behaviour and are especially suited to collect ecologically valid data on momentary and daily experiences whilst maintaining high internal validity. New technologies offer unique opportunities to incorporate objective indicators on entrepreneur's health and well-being in such designs (Eatough, Shockley, & Yu, 2016).

Yet there is also a lack of more traditional longitudinal research investigating within-individual developmental and adaptation processes for which, due to relative stability of the constructs under investigation, optimal time lags may be longer (Dorrman & Griffin, 2015). Many businesses are focused on annual performance cycles, because of which one-year time lags may be optimal especially when seeking to predict objective business performance. When investigating career developments or changes in personality over time, optimal time lags may extend to several years. In order to investigate within-individual processes, a minimum of three measurement moments is required to model individual growth curves (Liu, Mo, Song, & Wang, 2016), but alternatively, researchers could employ difference score analyses when only two measurement moments are available (Ferrer & McArdle, 2003).

Between person level. Our review demonstrates that most psychological entrepreneurship studies to date fall into areas that are dominated by a between-person perspective, meaning they aim to explain or predict differences between individuals by focusing on relatively stable characteristics of the person and the environment. Yet there is still scope for future research focussing on the between-person level. First, especially in the field of personality psychology, studies have been relatively successful linking personal characteristics to entrepreneurial outcomes, but explanatory mechanisms behind these relations have remained largely hidden. Moreover, possible reversed causality effects leading from entrepreneurial activities and performance to changes in personality have seldom been

investigated. Even though traits are generally seen as stable, considerations of occupational socialization as well as research on pro-active work behaviour has shown that especially the narrow traits involved in entrepreneurship may strengthen as a result of motivational job characteristics and engaging in proactive behaviour (Bakker & Demerouti, 2014; Semmer & Schallberger, 1996). Thus, combining the personality approach with a career, occupational health or cognitive psychological approach might be particularly fruitful.

Next, with regard to phases of the entrepreneurial process (Dimension B), much attention has been paid to intention formation, building on the Theory of Planned Behaviour or Shapero and Sokol's entrepreneurial event model (Schlaegel & Koenig, 2014). Other crucial phases of the entrepreneurial process, such as actual business start-up or business exit, have received more limited attention in the psychological literature. Yet significant contributions could be made. For example, research on business exit from a career-developmental perspective could study entrepreneurs' affective and behavioural responses after business exit and the question of why some entrepreneurs but not others start over again and develop serial or portfolio entrepreneurial careers (Jenkins & Mckelvie, 2016; Shepherd, Williams, Wolfe, & Patzelt, 2016). Other emerging and underexplored themes include entrepreneurs' decisions to start-up specific types of businesses (dimension C), such as social enterprises, and investigating other types of personal success criteria (Wach, Stephan, & Gorgievski, 2015).

Immediate context. As our review shows, the person-environment interaction that has been investigated most in entrepreneurship research is opportunity recognition. However, other aspects of the immediate context, including interactions between the individual entrepreneur and their social and work environments have received far less attention. Such interactions may include, for example, processes within the firm, such as communication and

decision making processes within founder or management teams, or interactions between entrepreneurs and their employees. Entrepreneurial leadership studies are an example of the latter, however, it remains hitherto unexplored how entrepreneurs “design” their businesses, i.e., how they shape the structure and culture of their firms and consequently their employees’ work environments. Another under-researched area is the interaction between the entrepreneur and their direct social context outside the firm, such as relationships with support networks, investors and stakeholders, but also their families. A developing area are work-home interactions and the role of the family during all phases of entrepreneurship in terms of influencing entrepreneurs’ decision but also as a source of support and recovery.

Wider external context. Finally the multiple layers of context within which the entrepreneur and his/her firm are embedded provide rich research opportunities. Our review highlights studies that start paying attention to context (local and community context, industry context and cultural context) and which demonstrate that context can be an important boundary condition. Fruitful opportunities for understanding context lie in progressing theorizing about the triple ‘fit’ of the individual entrepreneur, the business type and context. For instance, instead of assuming that there is one particular ‘entrepreneurial personality type’, perhaps different individuals can be successful entrepreneurs in different contexts; and equally they may be better suited to found a certain type of business in a given context. Such research implies multiple possible configurations of ‘entrepreneurial’ motives and personality and equifinality, as well as a corresponding theorizing on context. To start building a theory of entrepreneurship context, researchers could draw on theorizing in cross-cultural psychology which is applicable across community, regional and national levels (e.g., Frese, 2015; Hopp & Stephan, 2012). New studies could complement such research by extending well-established frameworks to describe work environments in order to analyse the psychological effects of the different demands, challenge and hindrance stressors (Bakker &

Demerouti, 2014) and enabling conditions inherent in local, industry, regional and national environments (Annink, Gorgievski, Den Dulk, 2016; Hobfoll, 2001) and institutions (Stephan, Uhlaner, & Stride, 2015).

In sum, our literature review and integrative framework reveal unique and rich opportunities for psychologists to contribute and advance our understanding of entrepreneurship. From a psychological perspective, entrepreneurs are a relatively under researched sample, and much remains to be uncovered in terms of explanatory mechanisms and the dynamic ways in which entrepreneurs interact with their immediate and wider contexts. Psychologists can draw from a significant range of well-established theoretical frameworks and methodologies specifically aimed at investigating dynamic processes as well as interactions between individuals and their environments. This is also illustrated by the articles selected for this special issue.

Overview of the Manuscripts in the Special Issue

The call for this special issue was published online in October, 2013 with a closing date of September 30, 2014. We received a total of 40 manuscripts. In line with the observations in the literature review, the most popular topic was the relationship between entrepreneurial characteristics—including the big five personality traits, self-efficacy, need for achievement, risk tolerance—and entrepreneurial outcomes including business success and venture type. Fifteen manuscripts fitted into this category. Other topics (each between 1 and 4 manuscripts) included appraisal and cognition, opportunity recognition, entrepreneurs' well-being, leadership and employee creativity, entrepreneurial careers, work to family conflict, team performance, networking, female entrepreneurship, effects of learning and mentoring, and crowd-funding. As concerns methodologies, most studies used entrepreneurial samples, namely 23 manuscripts, and only a few were based on student samples or the general working

population. Cross-sectional survey methods were most popular; 22 manuscripts applied this approach. Only four manuscripts had a longitudinal survey design, six were lab experiments, mostly vignette-based, two were qualitative studies and four manuscripts were theoretical contributions. As concerns special features, two manuscripts collected and analysed team-level data and three manuscripts applied a multi-level approach.

Seven articles were selected for publication in the special issue. In addition, we invited a commentary on current psychology of entrepreneurship research from the perspective of an established entrepreneurship scholar. All articles went through AP:IR's regular peer-review process. Besides scientific rigour of the studies and significance of contribution, additional criteria for inclusion related to fit with the special issue. First, we chose manuscripts with innovative viewpoints and a psychological focus, with the potential to not only advance entrepreneurship research, but also to be relevant for psychology, such as work and organisational psychology, educational psychology and clinical psychology. Second, our aim was to showcase studies using different types of multi-level research approaches, preferably including a person-environment link. Third, we included studies varying in research methodologies, including a secondary analysis of population level data, a qualitative research design, a within-person level research design, vignette and lab studies and a longitudinal survey design. Finally, we included articles revealing processes and explanatory mechanisms, and covering different phases of the entrepreneurial process. Next we introduce the individual articles.

Van der Vliert, Janssen and Van der Vegt (2016) investigate the effect of climato-economic environments on peoples' perceptions of entrepreneurial start-up difficulties in a secondary analysis of nation-level data. They show perceptions of start-up difficulty relate to lower income resources and colder-than-temperature winters, especially when alternated with

hotter-than-temperature summers, which pose threats to existential needs for thermal comfort, nutrition and health. Moreover, unfavourable climate conditions aggravate the effects of a country's poor economic resources. Alternative explanations, such as historical and societal developments, were ruled out. This contribution extends current work on person-environment interactions which tend to concentrate on more proximal contexts, ignoring possible influences of broader natural contexts.

The second paper also focusses on the start-up phase and deals with crowd-funding, a relatively new source of business funding. In a series of three vignette experiments, Letwin, Ciuchta, Stevenson and McMahon (2016) investigate how different types of information cues related to a business opportunity impact on peoples' willingness to invest in a new venture. Hence it is an example of entrepreneurs relate to their wider environment. Based on Regulatory Focus Theory, the authors show differential effects for promotion versus prevention focused individuals. The results give some reason for concern, because potential investors' investment decisions were coloured by social information and may insufficiently be based on opportunity quality.

Keith, Unger, Rauch and Frese (2016) relate entrepreneurs' informal learning to the success of their businesses. Prior research has shown that formal learning relates only weakly to entrepreneurs' business success and that informal learning may hence be especially important for them. Using a longitudinal survey design and based on a contingency approach, they show that self-regulated deliberate practice predicts business success over time. This relationship was stronger in dynamic as opposed to more stable environments. The finding that deliberate practice impacts on performance in dynamic environments extends current insights based on studies in other domains, such as music and sports, which conversely show that the effects of deliberate practice on performance are stronger when predictability is high.

The article by Van Gelderen (2016) provides an in-depth understanding of entrepreneurs' autonomy perceptions and their changes over time. Autonomy is a primary entrepreneurial motive and researchers often assume that autonomy is a stable characteristic of entrepreneurs. This qualitative study unpicks how autonomy is not automatically part of being an entrepreneur, but that entrepreneurs need to realize and actively create their autonomy vis-à-vis the outside world and through self-regulation. Van Gelderen characterizes different strategies entrepreneurs use to this end including how they may temporarily chose to sacrifice autonomy in order to achieve other goals. This new, dynamic perspective on autonomy has interesting implications for future research.

Thurik, Khedhaouria, Torris and Verheul (2016) investigate the relationship between Attention Deficit Hyperactivity Disorder (ADHD) and small firm owners' entrepreneurial orientation. In small firms, business owners' entrepreneurial orientation can be considered a proxy of the entrepreneurial orientation of the business, which the authors argue is crucial for small firm survival and growth. This study is an example of an out-of-the-box personality approach focusing on the bright side of a dark personality characteristic. By providing evidence for the positive link between ADHD and entrepreneurial orientation, the authors contribute to destigmatizing ADHD as a clinical disorder.

Anchored in positive psychology, the article by Laguna, Alessandri and Caprara (2016) is an example of a study combining a between-person with a within-person perspective. They introduce a methodology novel for psychological entrepreneurship research, namely the Personal Projects Analysis method (Little, 2006) to investigate within-person goal processes in a multilevel study. They find that being near the realisation of a goal related to more positive and less negative goal-related affect, indicating the higher motivational potential of these goals. Laguna et al.'s (2016) approach is also interesting from

the perspective of individuals within their immediate contexts, as they analysed goals related to both the business and the home domain; thereby taking a holistic view on entrepreneurs' work-life. They found that entrepreneurs' positive orientation, a personal resource defined as viewing oneself, life and the future with a positive outlook, enhanced positive relationships between goal realisation and positive affect in the home domain, but not for business goals.

Simmons, Carr and Hsu (2016) investigate business exit and re-entry, a topic that is still relatively underexposed in entrepreneurial careers research. Building on regulatory fit theory, the authors seek to answer the question of why some entrepreneurs and not others decide to re-enter business after either successful (harvest) or unsuccessful (distress) business exits. Past studies have mainly focused on institutional barriers, but less on personal or situational factors to understand re-entry decisions. In an experimental vignette study and a complementary survey of entrepreneurs, Simmons et al. (2015) show that promotion and prevention focused cognition and an entrepreneur's interpretation of the gains or losses after exit relate to serial entrepreneurship intentions.

Finally, Davidsson (2016) provides valuable reflections on 'advances in the psychology of entrepreneurship' from the perspective of a leading entrepreneurship researcher, journal editor and someone who has among other things contributed to methodological advances in entrepreneurship research. He offers an 'outside-in' perspective on psychological entrepreneurship research as he is not a psychologist himself. His reflections of the strengths of existing and potential psychological contributions to entrepreneurship research should make a particularly interesting and encouraging reading for psychologists.

Conclusion

This review and special issue showcase the significant contributions psychologists and psychology can make to understanding entrepreneurship. It is our hope that in doing so they

encourage more psychologists to engage with entrepreneurship and inspire novel research that leverages the strengths of psychological approaches—both theory and methodology—to understand entrepreneurship in all its facets. Entrepreneurship can be a key driver of economic, societal and personal well-being and productivity. By researching individual entrepreneurs, psychologists can help entrepreneurs, their support organizations and policy makers to realize the ‘bright side’ of entrepreneurship such as creating jobs, introducing innovation, lifting people out of poverty, working towards environmental sustainability and individual happiness. At the same time, they may generate valuable insights for broader psychological research, for instance, related to how to cope with uncertainty or current trends in the world of work towards increased flexibility, time pressure and responsibility in work—all of which are exemplified by entrepreneurs’.

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References

- *Ahmetoglu, G., Leutner, F., & Chamorro-Premuzic, T. (2011). EQ-nomics: Understanding the relationship between individual differences in Trait Emotional Intelligence and entrepreneurship. *Personality and Individual Differences, 51*(8), 1028–1033. doi:10.1016/j.paid.2011.08.016
- *Akhtar, R., Ahmetoglu, G., & Chamorro-Premuzic, T. (2013). Greed is good? Assessing the relationship between entrepreneurship and subclinical psychopathy. *Personality and Individual Differences, 54*(3), 420–425. doi:10.1016/j.paid.2012.10.013
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. doi:10.1016/0749-5978(91)90020-T
- *Allinson, C. W., Chell, E., & Hayes, J. (2000). Intuition and entrepreneurial behaviour. *European Journal of Work and Organizational Psychology, 9*(1), 31–43. doi:10.1080/135943200398049
- *Almeida, P. I. L., Ahmetoglu, G., & Chamorro-premuzic, T. (2014). Who Wants to Be an Entrepreneur - Relationship Between Vocational Interests and Individual Differences in Entrepreneurship. *Journal of Career Assessment, 22*(1), 102–112. doi:10.1177/1069072713492923
- *Alonso-Galicia, P. E. P. E. ., Fernández-Pérez, V., Rodríguez-Ariza, L., & Fuentes-Fuentes, M. del M. (2015). Entrepreneurial cognitions in academia: exploring gender differences. *Journal of Managerial Psychology, 30*(6), 630–644. doi:10.1108/JMP-08-2013-0262
- *Andrews, T. L., & Rogelberg, S. G. (2001). A new look at service climate: its relationship with owner service values in small businesses. *Journal of Business and Psychology, 16*, 119–131. doi:10.1023/a:1007895923389
- Annink, A., Gorgievski, M.J. & Den Dulk, L. (2016). Financial hardship and well-being: A cross-national comparison among the European. *European Journal of Work and Organizational Psychology*. Advance online publication (March) *Psychology*. doi: 10.1080/1359432X.2016.1150263
- *Armstrong, S. J., & Hird, A. (2009). Cognitive Style and Entrepreneurial Drive of New and Mature Business Owner-Managers. *Journal of Business and Psychology, 24*, 419–430. doi:10.1007/s10869-009-9114-4
- *Astebro, T., Jeffrey, S. A., & Adomdza, G. K. (2007). Inventor perseverance after being told to quit: The role of cognitive biases. *Journal of Behavioral Decision Making, 20*, 253–272. doi:10.1002/bdm.554
- Bakker, A. B., & Demerouti, E. (2014). Job demands resources theory. In P. Y. Chen & C. L. Cooper (Eds.), *Work and Wellbeing: wellbeing: a complete reference guide* (Vol. III). John Wiley & Sons, Inc. doi:10.1002/9781118539415.wbwell019
- *Baron, R. A. (2002). OB and entrepreneurship: The reciprocal benefits of closer conceptual links. *Research in Organizational Behavior, Vol 24, 24*, 225–269. doi:10.1016/s0191-3085(02)24007-1
- *Baron, R. A. (2010). Job design and entrepreneurship: Why closer connections = mutual gains. *Journal of Organizational Behavior, 31*(2-3), 370–378. doi:10.1002/job.607
- *Baron, R. A., Markman, G. D., & Hirska, A. (2001). Perceptions of women and men as entrepreneurs: Evidence for differential effects of attributional augmenting. *Journal of Applied Psychology, 86*, 923–929. doi:10.1037//0021-9010.86.5.923
- *Baum, J. R., Bird, B. J., & Singh, S. (2011). The practical intelligence of entrepreneurs: antecedents and a link with new venture growth. *Personnel Psychology, 64*(2), 397–425. doi:10.1111/j.1744-6570.2011.01214.x
- *Baum, J. R., & Locke, E. A. (2004). The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth. *Journal of Applied Psychology, 89*(4), 587–598. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/15327346>

- *Beefink, F., van Eerde, W., Rutte, C. G., & Bertrand, J. W. M. (2012). Being Successful in a Creative Profession: The Role of Innovative Cognitive Style, Self-Regulation, and Self-Efficacy. *Journal of Business and Psychology*, 27(1), 71–81. doi:10.1007/s10869-011-9214-9
- *Bernhard, F., & O’Driscoll, M. P. (2011). Psychological Ownership in Small Family-Owned Businesses: Leadership Style and Nonfamily-Employees’ Work Attitudes and Behaviors. *Group & Organization Management*, 36(3), 345–384. doi:10.1177/1059601111402684
- Binder, M., & Coad, A. (2013). Life satisfaction and self-employment: A matching approach. *Small Business Economics*, 40(4), 1009–1033. doi:10.1007/s11187-011-9413-9
- *Blonk, R. W. B., Brenninkmeijer, V., Lagerveld, S. E., & Houtman, I. L. D. (2006). Return to work: A comparison of two cognitive behavioural interventions in cases of work-related psychological complaints among the self-employed. *Work and Stress*, 20, 129–144. doi:10.1080/02678370600856615
- *Boles, J. S., Dean, D. H., Ricks, J. M., Short, J. C., & Wang, G. P. (2000). The dimensionality of the Maslach Burnout Inventory across small business owners and educators. *Journal of Vocational Behavior*, 56, 12–34. doi:10.1006/jvbe.1999.1689
- *Brandstaetter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences*, 51, 222–230. doi:10.1016/j.paid.2010.07.007
- *Canedo, J. C., Stone, D. L., Black, S. L., & Lukaszewski, K. M. (2014). Individual factors affecting entrepreneurship in Hispanics. *Journal of Managerial Psychology*, 29(6), 755–772. doi:10.1108/JMP-11-2012-0333
- *Cardon, M. S., & Patel, P. C. (2013). Is Stress Worth it? Stress-Related Health and Wealth Trade-Offs for Entrepreneurs. *Applied Psychology: an International Review*, 64(2), 379–420. doi:10.1111/apps.12021
- *Chan, K. Y., Uy, M. A., Chernyshenko, O. S., Ho, M. R., & Sam, Y. (2015). Personality and entrepreneurial, professional and leadership motivations. *Personality and Individual Differences*, 77, 161–166. doi:10.1016/j.paid.2014.12.063
- *Chan, K. Y., Ho, M. R., Chernyshenko, O. S., Bedford, O., Uy, M. A., Gomulya, D., ... Phan, W. M. J. (2012). Entrepreneurship, professionalism, leadership: A framework and measure for understanding boundaryless careers. *Journal of Vocational Behavior*, 81(1), 73–88. doi:10.1016/j.jvb.2012.05.001
- *Chapman, M. (2000). When the entrepreneur sneezes, the organization catches a cold: A practitioner's perspective on the state of the art in research on the entrepreneurial personality and the entrepreneurial process. *European Journal of Work and Organizational Psychology*, 9(1), 97–101. doi:10.1080/135943200398102
- *Chell, E. (2000). Towards researching the opportunistic entrepreneur: A social constructionist approach and research agenda. *European Journal of Work and Organizational Psychology*, 9(February 2015), 63–80. doi:10.1080/135943200398067
- *Chevalier, S., Fouquereau, E., Gillet, N., & Demulier, V. (2013). Development of the Reasons for Entrepreneurs’ Retirement Decision Inventory (RERDI) and Preliminary Evidence of Its Psychometric Properties in a French Sample. *Journal of Career Assessment*, 21(4), 572–586. doi:10.1177/1069072712475288
- Ciuchta, M. P. ., Letwin, C., Stevenson, R. M., & McMahon, S. R. (2016). Regulatory Focus and Information Cues in a Crowdfunding Context. *Applied Psychology: An International Review*, 65(3).
- *Coelho, M. P. (2010). Unrealistic Optimism: Still a Neglected Trait. *Journal of Business and Psychology*, 25, 397–408. doi:10.1007/s10869-009-9146-9
- *Cogliser, C. C., & Brigham, K. H. (2004). The intersection of leadership and entrepreneurship: Mutual lessons to be learned. *The Leadership Quarterly*, 15(6), 771–799.

doi:10.1016/j.leaqua.2004.09.004

- *Cromie, S. (2000). Assessing entrepreneurial inclinations: Some approaches and empirical evidence. *European Journal of Work and Organizational Psychology*, 9(1), 7–30. doi:10.1080/135943200398030
- *Culbertson, S. S., Smith, M. R., & Leiva, P. I. (2011). Enhancing Entrepreneurship: The Role of Goal Orientation and Self-Efficacy. *Journal of Career Assessment*, 19, 115–129. doi:10.1177/1069072710385543
- Davidsson, P. (2015). Entrepreneurial opportunities and the entrepreneurship nexus: A re-conceptualization. *Journal of Business Venturing*, 30(5), 674–695. doi:10.1016/j.jbusvent.2015.01.002
- Davidsson, P. (2016). A “ Business Researcher ” View on Opportunities for Psychology in Entrepreneurship Research, *Applied Psychology: An International Review*, 65(03). doi:10.1111/apps.12071
- *Davis, M. A. (2003). Factors related to bridge employment participation among private sector early retirees. *Journal of Vocational Behavior*, 63, 55–71. doi:10.1016/s0001-8791(02)00016-7
- *Decker, W. H., Calo, T. J., & Weer, C. H. (2012). Affiliation motivation and interest in entrepreneurial careers. *Journal of Managerial Psychology*, 27(3), 302–320. doi:10.1108/02683941211205835
- *DeVaughn, M. L., & Leary, M. M. (2010). Antecedents of Failure for Newly Chartered Banks in the U.S. Banking Industry. *Group & Organization Management*, 35, 666–695. doi:10.1177/1059601110381495
- *Donaldson, T., & Walsh, J. P. (2015). Research in Organizational Behavior Toward a theory of business. *Research in Organizational Behavior*, 35, 181–207.
- Dorrman, C., & Griffin, M. A. (2015). Optimal time lags in panel studies. *Psychological Methods*, Advance online publication (August). <http://dx.doi.org/10.1037/met0000041>
- *Dougherty, T. W., Cheung, Y. H., & Florea, L. (2008). The role of personality in employee developmental networks. *Journal of Managerial Psychology*, 23(6), 653–669. doi:10.1108/02683940810894738
- Eatough, E., Shockley, K., & Yu, P. (2016). A Review of Ambulatory Health Data Collection Methods for Employee Experience Sampling Research. *Applied Psychology: an International Review*, 65(2), 322–354. doi:10.1111/apps.12068
- *Ensley, M. D., Hmieleski, K. M., & Pearce, C. L. (2006). The importance of vertical and shared leadership within new venture top management teams: Implications for the performance of startups. *Leadership Quarterly*, 17, 217–231. doi:10.1016/j.leaqua.2006.02.002
- *Ensley, M. D., & Pearce, C. L. (2001). Shared cognition in top management teams: implications for new venture performance. *Journal of Organizational Behavior*, 22, 145–160. doi:10.1002/job.83
- *Ettner, S. L., & Grzywacz, J. G. (2001). Workers’ perceptions of how jobs affect health: A social ecological perspective. *Journal of Occupational Health Psychology*, 6(2), 101–113. doi:10.1037//1076-8998.6.2.101
- *Felfe, J., Schmook, R., Schyns, B., & Six, B. (2008). Does the form of employment make a difference? - Commitment of traditional, temporary, and self-employed workers. *Journal of Vocational Behavior*, 72, 81–94. doi:10.1016/j.jvb.2007.10.008
- Ferrer, E., & McArdle, J. (2003). Alternative structural models for multivariate longitudinal data analysis. *Structural Equation Modeling: A Multidisciplinary Journal*, 10(3), 622–647.
- *Foo, M.D., Uy, M. A., & Baron, R. A. (2009). How Do Feelings Influence Effort? An Empirical Study of Entrepreneurs’ Affect and Venture Effort. *Journal of Applied Psychology*, 94, 1086–1094. doi:10.1037/a0015599

- Frese, M. (2009). Towards a Psychology of Entrepreneurship: An Action Theory Perspective. *Foundations and Trends in Entrepreneurship*, 5(6), 437–496. doi:10.1561/03000000028
- Frese, M. (2015). Cultural Practices, Norms, and Values. *Journal of Cross-Cultural Psychology*, DOI:10.1177/0022022115600267. doi:10.1177/0022022115600267
- *Frese, M., Chell, E., & Klandt, H. (2000). Introduction. *European Journal of Work and Organizational Psychology*, 9(1), 3–6. doi:10.1080/135943200398021
- *Frese, M., & Fay, D. (2001). Personal initiative: An active performance concept for work in the 21st century. *Research In Organizational Behavior*, 23, 133–187. doi:10.1016/S0191-3085(01)23005-6
- Frese, M., & Gielnik, M. M. (2014). The psychology of entrepreneurship. *Annual Review of Organizational Psychology and Organizational Behavior*, 1, 413–438.
- *Frese, M., Krauss, S. I., Keith, N., Escher, S., Grabarkiewicz, R., Luneng, S. T., ... Friedrich, C. (2007). Business owners' action planning and its relationship to business success in three African countries. *Journal of Applied Psychology*, 92(6), 1481–1498. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18020791>
- *Gelderens, M. Van. (2000). Enterprising behaviour of ordinary people. *European Journal of Work and Organizational Psychology*, 9(1), 81–88. doi:10.1080/135943200398076
- *Gielen, M. M., Krämer, A. C., Kappel, B., & Frese, M. (2014). Antecedents of Business Opportunity Identification and Innovation: Investigating the Interplay of Information Processing and Information Acquisition. *Applied Psychology: International Review*, 63(2), 344–381. doi:10.1111/j.1464-0597.2012.00528.x
- *Gobel, S. (2000). Klaus B: The success story of an entrepreneur - a case study. *European Journal of Work and Organizational Psychology*, 9(1), 89–92. doi:10.1080/135943200398085
- *Gorgievski, M. J., Bakker, A. B., Schaufeli, W. B., van der Veen, H. B., & Giesen, C. W. M. (2010). Financial problems and psychological distress: Investigating reciprocal effects among business owners. *Journal of Occupational and Organizational Psychology*, 83, 513–530. doi:10.1348/096317909x434032
- *Gorgievski, M. J., Moriano, J. A., & Bakker, A. B. (2014). Relating work engagement and workaholism to entrepreneurial performance. *Journal of Managerial Psychology*, 29(2), 106–121. doi:10.1108/jmp-06-2012-0169
- *Gorgievski-Duijvesteijn, M. J., Giesen, C. W. M., & Bakker, A. B. (2000). Financial problems and health complaints among farm couples: Results of a 10-yr follow-up study. *Journal of Occupational Health Psychology*, 5(3), 359–373. doi:10.1037//1076-8998.5.3.359
- *Gorgievski-Duijvesteijn, M. J., Bakker, A. B., Schaufeli, W. B., & van der Heijden, P. G. M. (2005). Finances and well-being: a dynamic equilibrium model of resources. *Journal of Occupational Health Psychology*, 10(3), 210–24. doi:10.1037/1076-8998.10.3.210
- *Grant, A. M., Fried, Y., Parker, S. K., & Frese, M. (2010). Putting job design in context: Introduction to the special issue. *Journal of Organizational Behavior*, 31(2-3), 145–157. doi:10.1002/job.679
- *Grant-Vallone, E. J., & Ensher, E. A. (2011). Opting In Between: Strategies Used by Professional Women With Children to Balance Work and Family. *Journal of Career Development*, 38, 331–348. doi:10.1177/0894845310372219
- *Gupta, V. K., Turban, D. B., & Bhawe, N. M. (2008). The effect of gender stereotype activation on entrepreneurial intentions. *Journal of Applied Psychology*, 93, 1053–1061. doi:10.1037/0021-9010.93.5.1053
- Harms, P. D., & Spain, S. M. (2015). Beyond the Bright Side: Dark Personality at Work. *Applied Psychology: an International Review*, 64(1), 15–24. doi:10.1111/apps.12042
- *Hansemark, O. C. (2000). Predictive validity of TAT and CMPS on the entrepreneurial activity,

- “start of a new business”: a longitudinal study". *Journal of Managerial Psychology*, 15(7), 634–654. doi:10.1108/02683940010378036
- *Hill, A. D., Wallace, J.C., Ridge, J. W., Johnson, P. D., Paul, J. B., & Suter, T. a. (2014). Innovation and Effectiveness of Co-Founded Ventures: A Process Model. *Journal of Business and Psychology*, 29(1), 145–159. doi:10.1007/s10869-013-9306-9
- *Hirschi, A. (2013). Career Decision Making, Stability, and Actualization of Career Intentions: The Case of Entrepreneurial Intentions. *Journal of Career Assessment*, 21(4), 555–571. doi:10.1177/1069072712475287
- *Hisrich, R. D. (2000). Can psychological approaches be used effectively: An overview. *European Journal of Work and Organizational Psychology*, 9(1), 93–96. doi:10.1080/135943200398094
- *Hmieleski, K. M., & 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, 865–889. doi:10.1002/job.479
- Hobfoll, S. E. (2001). The Influence of Culture, Community, and the Nested-Self in the Stress Process: Advancing Conservation of Resources Theory. *Applied Psychology: an International Review*, 50(3), 337–421. doi:10.1111/1464-0597.00062
- *Hodzic, S., Ripoll, P., Lira, E., & Zenasni, F. (2015). Can intervention in emotional competences increase employability prospects of unemployed adults? *Journal of Vocational Behavior*, 88, 28–37. doi:10.1016/j.jvb.2015.02.007
- Hopp, C., & Stephan, U. (2012). The influence of socio-cultural environments on the performance of nascent entrepreneurs: Community culture, motivation, self-efficacy and start-up success. *Entrepreneurship and Regional Development*, 29(9-19), 1–29. doi:10.1080/08985626.2012.742326
- *Huang, L., Frideger, M., & Pearce, J. L. (2013). Political skill: explaining the effects of nonnative accent on managerial hiring and entrepreneurial investment decisions. *The Journal of Applied Psychology*, 98(6), 1005–17. doi:10.1037/a0034125
- Jenkins, A., & Mckelvie, A. (2016). What is entrepreneurial failure ? Implications for future research. *International Small Business Journal*, 34(March), 176–188. doi:10.1177/0266242615574011
- *Jome, L. M., Donahue, M. P., & Siegel, L. A. (2006). Working in the uncharted technology frontier: Characteristics of women web entrepreneurs. *Journal of Business and Psychology*, 21, 127–147. doi:10.1007/s10869-005-9019-9
- Karasek, R. A., & Theorell, T. (1990). *Healthy work. Stress, productivity and the reconstruction of working life*. New York: Basic Books.
- Keith, N., Unger, J. M., Rauch, A., & Frese, M. (2016). Informal Learning and Entrepreneurial Success: A Longitudinal Study of Deliberate Practice among Small Business Owners. *Applied Psychology: An International Review*, 65(03), n/a–n/a. doi:10.1111/apps.12054
- *Khayesi, J. N. O., & George, G. (2011). When does the socio-cultural context matter? Communal orientation and entrepreneurs' resource accumulation efforts in Africa. *Journal of Occupational and Organizational Psychology*, 84, 471–492. doi:10.1111/j.2044-8325.2011.02029.x
- *Korunka, C., Kessler, A., Frank, H., & Lueger, M. (2010). Personal characteristics, resources, and environment as predictors of business survival. *Journal of Occupational and Organizational Psychology*, 83(4), 1025–1051. doi:10.1348/096317909X485135
- *Krauss, S. I., Frese, M., Friedrich, C., & Unger, J. M. (2005). Entrepreneurial orientation: A psychological model of success among southern African small business owners. *European Journal of Work and Organizational Psychology*, 14, 315–344. doi:10.1080/13594320500170227
- *Kyndt, E., & Baert, H. (2015). Entrepreneurial competencies: Assessment and predictive value for

- entrepreneurship. *Journal of Vocational Behavior*, 90, 13–25. doi:10.1016/j.jvb.2015.07.002
- Laguna, M., Alessandri, G., & Caprara, G. V. (2016). Personal Goal Realisation in Entrepreneurs: A Multilevel Analysis of the Role of Affect and Positive Orientation. *Applied Psychology: An International Review*, 65(03), n/a–n/a. doi:10.1111/apps.12061
- *Landstrom, H., & Lohrke, F. (2015). New Advantage and Liability Sources in Entrepreneurial Firms: Assessing Progress and Exploring Possibilities. *Group & Organization Management*, 40(1), 121–124. doi:10.1177/1059601114568240
- *Le Breton-Miller, I., & Miller, D. (2014). Temporal considerations in the study of family firms: Reflections on “the study of organizational behaviour in family business.” *European Journal of Work and Organizational Psychology*, 23(5), 669–673. doi:10.1080/1359432X.2014.907276
- *Leutner, F., Ahmetoglu, G., Akhtar, R., & Chamorro-Premuzic, T. (2014). The relationship between the entrepreneurial personality and the Big Five personality traits. *Personality and Individual Differences*, 63, 58–63. doi:10.1016/j.paid.2014.01.042
- Liu, Y., Mo, S., Song, Y., & Wang, M. (2016). Longitudinal Analysis in Occupational Health Psychology: A Review and Tutorial of Three Longitudinal Modeling Techniques. *Applied Psychology: an International Review*, 65(2), 379–411. doi:10.1111/apps.12055
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135 – 172.
- *Macko, A., & Tyszka, T. (2009). Entrepreneurship and Risk Taking. *Applied Psychology: an International Review*, 58, 469–487. doi:10.1111/j.1464-0597.2009.00402.x
- *Malach-Pines, A., Levy, H., Utasi, A., & Hill, T. L. (2005). Entrepreneurs as cultural heroes: A cross-cultural, interdisciplinary perspective. *Journal of Managerial Psychology*, 20(6), 541–555. doi:10.1108/02683940510615460
- *Malach-Pines, A., & Schwartz, D. (2008). Now you see them, now you don't: gender differences in entrepreneurship. *Journal of Managerial Psychology*, 23(7), 811–832. doi:10.1108/02683940810896358
- *Markman, G. D., Baron, R. A., & Balkin, D. B. (2005). Are perseverance and self-efficacy costless? Assessing entrepreneurs' regretful thinking. *Journal of Organizational Behavior*, 26(1), 1–19. doi:10.1002/job.305
- *Mathieu, C., & St-Jean, É. (2013). Entrepreneurial personality: The role of narcissism. *Personality and Individual Differences*, 55(5), 527–531. doi:10.1016/j.paid.2013.04.026
- *Miner, J. B., & Raju, N. S. (2004). Risk propensity differences between managers and entrepreneurs and between low- and high-growth entrepreneurs: A reply in a more conservative vein. *Journal of Applied Psychology*, 89, 3–13. doi:10.1037/0021-9010.89.1.3
- *Moore, D. A., & Cain, D. M. (2007). Overconfidence and underconfidence: When and why people underestimate (and overestimate) the competition. *Organizational Behavior and Human Decision Processes*, 103, 197–213. doi:10.1016/j.obhdp.2006.09.002
- *Moriano, J. A., Gorgievski, M., Laguna, M., Stephan, U., & Zarafshani, K. (2012). A Cross-Cultural Approach to Understanding Entrepreneurial Intention. *Journal of Career Development*, 39(2), 162–185. doi:10.1177/0894845310384481
- *Muller-Kahle, M. I., & Schiehl, E. (2013). Gaining the ultimate power edge: Women in the dual role of CEO and Chair. *Leadership Quarterly*, 24(5), 666–679. doi:10.1016/j.leaqua.2013.05.001
- *Mumford, M. D., Connelly, S., Helton, W. B., Van Doorn, J. R., & Osburn, H. K. (2002). Alternative approaches for measuring values: Direct and indirect assessments in performance prediction. *Journal of Vocational Behavior*, 61, 348–373. doi:10.1006/jvbe.2001.1860
- *Nicolaou, N., Shane, S., Cherkas, L., & Spector, T. D. (2009). Opportunity recognition and the tendency to be an entrepreneur: A bivariate genetics perspective. *Organizational Behavior and*

Human Decision Processes, 110(2), 108–117. doi:10.1016/j.obhdp.2009.08.005

- *Nieß, C., & Biemann, T. (2014). The role of risk propensity in predicting self-employment. *Journal of Applied Psychology*, 99(5), 1000–1009. doi:10.1037/a0035992
- *Niessen, C., Binnewies, C., & Rank, J. (2010). Disengagement in work-role transitions. *Journal of Occupational and Organizational Psychology*, 83(3), 695–715. doi:10.1348/096317909X470717
- *Ntalianis, F., Dyer, L. ., & Vandenberghe, C. (2015). Owner-Employee relations in small firms. *Journal of Managerial Psychology*, 30(7), 832–846.
- *Obschonka, M., Andersson, H., Silbereisen, R. K., & Sverke, M. (2013). Rule-breaking, crime, and entrepreneurship: A replication and extension study with 37-year longitudinal data. *Journal of Vocational Behavior*, 83(3), 386–396. doi:http://dx.doi.org/10.1016/j.jvb.2013.06.007
- *Obschonka, M., Goethner, M., Silbereisen, R. K., & Cantner, U. (2012). Social identity and the transition to entrepreneurship: The role of group identification with workplace peers. *Journal of Vocational Behavior*, 80(1), 137–147. doi:10.1016/j.jvb.2011.05.007
- *Obschonka, M., Schmitt-Rodermund, E., Silbereisen, R. K., Gosling, S. D., & Potter, J. (2013). The regional distribution and correlates of an entrepreneurship-prone personality profile in the United States, Germany, and the United Kingdom: a socioecological perspective. *Journal of Personality and Social Psychology*, 105(1), 104–22. doi:10.1037/a0032275
- *Obschonka, M., Silbereisen, R. K., Cantner, U., & Maxmilian Goethner. (2014). Entrepreneurial Self-Identity: Predictors and Effects within the Theory of Planned Behavior Framework. *Journal of Business Psychology*, 30 (4), 1–22. doi:10.1007/s10869-014-9385-2
- *Obschonka, M., Silbereisen, R. K., & Schmitt-Rodermund, E. (2010). Entrepreneurial intention as developmental outcome. *Journal of Vocational Behavior*, 77(1), 63–72. doi:10.1016/j.jvb.2010.02.008
- *Obschonka, M., Silbereisen, R. K., Schmitt-Rodermund, E., & Stuetzer, M. (2011). Nascent entrepreneurship and the developing individual: Early entrepreneurial competence in adolescence and venture creation success during the career. *Journal of Vocational Behavior*, 79(1), 121–133. doi:10.1016/j.jvb.2010.12.005
- *Obschonka Martin, S. R. K. (2015). The Effects of Work-Related Demands Associated With Social and Economic Change on Psychological Well-Being. *Journal of Personnel Psychology*, 14(1), 10. doi:10.1027/1866-5888/a000128
- *Oh, H., & Kilduff, M. (2008). The ripple effect of personality on social structure: Self-monitoring origins of network brokerage. *Journal of Applied Psychology*, 93, 1155–1164. doi:10.1037/0021-9010.93.5.1155
- Omoredede, A., Thorgren, S., & Wincent, J. (2014). Entrepreneurship psychology: a review. *International Entrepreneurship and Management Journal*, 11(4), 743–768. doi:10.1007/s11365-014-0307-6
- *Ozcelik, H., Langton, N., & Aldrich, H. (2008). Doing well and doing good: The relationship between leadership practices that facilitate a positive emotional climate and organizational performance. *Journal of Managerial Psychology*, 23, 186–203. doi:10.1108/02683940810850817
- *Parasuraman, S., & Simmers, C. A. (2001). Type of employment, work-family conflict and well-being: a comparative study. *Journal of Organizational Behavior*, 22(5), 551–568. doi:10.1002/job.102
- Parker, S. K. (2014). Beyond motivation: Job and work design for development, health, ambidexterity, and more. *Annual Review of Psychology*, 65, 661–691.
- *Parslow, R. A., Jorm, A. F., Christensen, H., Rodgers, B., Strazdins, L., & D'Souza, R. M. (2004). The associations between work stress and mental health: A comparison of organizationally employed and self-employed workers. *Work and Stress*, 18, 231–244.

doi:10.1080/14749730412331318649

- *Payne, S. C., & Webber, S. S. (2006). Effects of service provider attitudes and employment status on citizenship behaviors and customers' attitudes and loyalty behavior. *Journal of Applied Psychology, 91*, 365–378. doi:10.1037/0021-9010.91.2.365
- *Peiro, J. M., Garcia-Montalvo, J., & Gracia, F. (2002). How do young people cope with job flexibility?: Demographic and psychological antecedents of the resistance to accept a job with non-preferred flexibility features. *Applied Psychology: an International Review, 51*, 43–66. doi:10.1111/1464-0597.0078z
- *Phillips, W., Lee, H., Ghobadian, A., O'Regan, N., & James, P. (2014). Social Innovation and Social Entrepreneurship: A Systematic Review. *Group & Organization Management, 40*(3), 428–461. doi:10.1177/1059601114560063
- *Pollack, J. M., Vanepps, E. M., & Hayes, A. F. (2012). The moderating role of social ties on entrepreneurs' depressed affect and withdrawal intentions in response to economic stress. *Journal of Organizational Behavior, 33*(6), 789–810. doi:10.1002/job.1794
- *Powell, G. N., & Eddleston, K. A. (2008). The paradox of the contented female business owner. *Journal of Vocational Behavior, 73*, 24–36. doi:10.1016/j.jvb.2007.12.005
- *Prottas, D. J., & Thompson, C. A. (2006). Stress, satisfaction, and the work-family interface: A comparison of self-employed business owners, independents, and organizational employees. *Journal of Occupational Health Psychology, 11*, 366–378. doi:10.1037/1076-8998.11.4.366
- Rauch, A., & Frese, M. (2000). Psychological approaches to entrepreneurial success: A general model and an overview of findings. *International Review of Industrial and Organizational Psychology, 15*, 101–142.
- *Rauch, A., & 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), 353–385. doi:10.1080/13594320701595438
- *Reh fuss, M. C., & Di Fabio, A. (2012). Validating the Future Career Autobiography as a Measure of Narrative Change. *Journal of Career Assessment, 20*(4), 452–462. doi:10.1177/1069072712450005
- *Reicher, S., Haslam, S. A., & Hopkins, N. (2005). Social identity and the dynamics of leadership: Leaders and followers as collaborative agents in the transformation of social reality. *Leadership Quarterly, 16*, 547–568. doi:10.1016/j.leaqua.2005.06.007
- *Roche, M., Haar, J. M., & Luthans, F. (2014). The role of mindfulness and psychological capital on the well-being of leaders. *Journal of Occupational Health Psychology, 19*(4), 476–489. doi:10.1037/a0037183
- *Roland-Lévy, C., & Kirchler, E. (2009). Special issue: Psychology in the economic world. *Applied Psychology: an International Review, 58*(3), 363–369. doi:10.1111/j.1464-0597.2009.00395.x
- *Rollag, K. (2007). Defining the term “new” in new employee research. *Journal of Occupational and Organizational Psychology, 80*, 63–75. doi:10.1348/096317906x120420
- *Rooks, G., Sserwanga, A., & Frese, M. (2014). Unpacking the Personal Initiative-Performance Relationship: A Multi-Group Analysis of Innovation by Ugandan Rural and Urban Entrepreneurs. *Applied Psychology: International Review, 65*(1), 99–131. doi:10.1111/apps.12033
- *Rubino, C., Luksyte, A., Perry, S. J., & Volpone, S. D. (2009). How do stressors lead to burnout? The Mediating Role of Motivation. *Journal of Occupational Health Psychology, 14*, 289–304. doi:10.1037/a0015284
- *Ruvio, A., Rosenblatt, Z., & Hertz-Lazarowitz, R. (2010). Entrepreneurial leadership vision in nonprofit vs. for-profit organizations. *Leadership Quarterly, 21*, 144–158.

doi:10.1016/j.leaqua.2009.10.011

- *Sadler-Smith, E. (2015). The role of intuition in entrepreneurship and business venturing decisions. *European Journal of Work and Organizational Psychology*, 0643(December), 1–14. doi:10.1080/1359432X.2015.1029046
- Schlaegel, C., & Koenig, M. (2014). Determinants of Entrepreneurial Intent: A Meta-Analytic Test and Integration of Competing Models. *Entrepreneurship Theory and Practice*, 38(2), 291–332. doi:10.1111/etap.12087
- *Schmitt-Rodermund, E. (2004). Pathways to successful entrepreneurship: Parenting, personality, early entrepreneurial competence, and interests. *Journal of Vocational Behavior*, 65(3), 498–518. doi:10.1016/j.jvb.2003.10.007
- *Schonfeld, I. S., & Mazzola, J. J. (2015). A qualitative study of stress in individuals self-employed in solo businesses. *Journal of Occupational Health Psychology*, 20(4), 501–513. doi:10.1037/a0038804
- *Schröder, E., & Schmitt-Rodermund, E. (2013). Antecedents and consequences of adolescents' motivations to join the family business. *Journal of Vocational Behavior*, 83(3), 476–485. doi:10.1016/j.jvb.2013.07.006
- *Schroeder, E., & Schmitt-Rodermund, E. (2006). Crystallizing enterprising interests among adolescents through a career development program: The role of personality and family background. *Journal of Vocational Behavior*, 69(3), 494–509. doi:10.1016/j.jvb.2006.05.004
- Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Transaction publishers.
- Schyns, B. (2015). Dark Personality in the Workplace: Introduction to the Special Issue. *Applied Psychology: an International Review*, 64(1), 1–14. doi:10.1111/apps.12041
- Semmer, N., & Schallberger, U. (1996). Selection, Socialisation, and Mutual Adaptation: Resolving Discrepancies Between People and Work. *Applied Psychology: an International Review*, 45(3), 263–288. doi:10.1111/j.1464-0597.1996.tb00768.x
- *Shane, S. (2009). Introduction to the focused issue on the biological basis of business. *Organizational Behavior and Human Decision Processes*, 110(2), 67–69. doi:10.1016/j.obhdp.2009.10.001
- *Shane, S., Nicolaou, N., Cherkas, L., & Spector, T. D. (2010). Genetics, the Big Five, and the tendency to be self-employed. *The Journal of Applied Psychology*, 95(6), 1154–62. doi:10.1037/a0020294
- Shane, S., & Venkatraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217–226.
- *Shapiro, M., Ingols, C., & Blake-Beard, S. (2008). Confronting career double binds - Implications for women, organizations, and career practitioners. *Journal of Career Development*, 34, 309–333. doi:10.1177/0894845307311250
- *Sharma, P., De Massis, A., & Gagne, M. (2014). Family business: A fertile ground for research on time, teams and positive organizational study. *European Journal of Work and Organizational Psychology*, 23(5), 674–679. doi:10.1080/1359432X.2014.900046
- Shepherd, D. A. (2015). Party On! A call for entrepreneurship research that is more interactive, activity based, cognitively hot, compassionate, and prosocial. *Journal of Business Venturing*, 30(4), 489–507. doi:10.1016/j.jbusvent.2015.02.001
- Shepherd, D. A., Williams, T., Wolfe, M., & Patzelt, H. (2016). *Learning from entrepreneurial failure, emotions, cognitions and actions*. Cambridge: Cambridge University Press.
- Simmons, S. A., Carr, J. C., & Hsu, D. K. (2016). The Regulatory Fit of Serial Entrepreneurship Intentions, 65(03). doi:10.1111/apps.12070

- *Singh, G., Saghafi, M., Ehrlich, S., & De Noble, A. (2010). Perceptions of Self-Employment Among Mid-Career Executives in the People's Republic of China. *Journal of Career Assessment, 18*(4), 393–408. doi:10.1177/1069072710374579
- *Sköld, D., & Rehn, A. (2007). Makin' it, by keeping it real: street talk, rap music, and the forgotten entrepreneurship from "the hood". *Group & Organization Management, 32*(1), 50–78. doi:10.1177/1059601106294487
- *Sommer, S. M., & Welsh, D. H. B. (2000). The ethical orientation of Russian entrepreneurs. *Applied Psychology: an International Review, 49*, 688–708. doi:10.1111/1464-0597.00040
- *Srivastava, A., Locke, E. A., & Bartol, K. M. (2001). Money and subjective well-being: It's not the money, it's the motives. *Journal of Personality and Social Psychology, 80*, 959–971. doi:10.1037/0022-3514.80.6.959
- Stephan, U., Patterson, M., Kelly, C., & Mair, J. (2016). Organizations Driving Positive Social Change: A Review and an Integrative Framework of Change Processes. *Journal of Management, 42*(1), 1–20. doi:10.1177/0149206316633268. doi:10.1177/0149206316633268
- *Stephan, U., & Roesler, U. (2010). Health of entrepreneurs versus employees in a national representative sample. *Journal of Occupational and Organizational Psychology, 83*(3), 717–738. doi:10.1348/096317909X472067
- Stephan, U., & Uhlaner, L. M. (2010). Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies, 41*(8), 1347–1364. doi:10.1057/jibs.2010.14
- Stephan, U., Uhlaner, L. M., & Stride, C. (2015). Institutions and social entrepreneurship: The role of institutional voids, institutional support, and institutional configurations. *Journal of International Business Studies, 46*(3), 308–331. doi:10.1057/jibs.2014.38
- *Steward, W. H., & Roth, P. L. (2004). Data quality affects meta-analytic conclusions: A response to Miner and Raju (2004) concerning entrepreneurial risk propensity. *Journal of Applied Psychology, 89*, 14–21. doi:10.1037/0021-9010.89.1.14
- *Steward, W. H., & Roth, P. L. L. (2001). Risk propensity differences between entrepreneurs and managers: A meta-analytic review. *Journal of Applied Psychology, 86*, 145–153. doi:10.1037//0021-9010.86.1.145
- *St-Jean, É., & Mathieu, C. (2015). Developing Attitudes Toward an Entrepreneurial Career Through Mentoring: The Mediating Role of Entrepreneurial Self-Efficacy. *Journal of Career Development, 42*(4), 325–338. doi:10.1177/0894845314568190
- *Sullivan, D. M., & Meek, W. R. (2012). Gender and entrepreneurship: a review and process model. *Journal of Managerial Psychology, 27*, 428–458. doi:10.1108/02683941211235373
- *Svejenova, S., Mazza, C., & Planellas, M. (2007). Cooking up change in haute cuisine: Ferran Adria as an institutional entrepreneur. *Journal of Organizational Behavior, 28*, 539–561. doi:10.1002/job.461
- *Taris, T. W., Geurts, S. A. E., Schaufeli, W. B., Blonk, R. W. B., & Lagerveld, S. E. (2008). All day and all of the night: The relative contribution of two dimensions of workaholism to well-being in self-employed workers. *Work and Stress, 22*, 153–165. doi:10.1080/02678370701758074
- *Tetrick, L. E., Slack, K. J., Da Silva, N., & Sinclair, R. R. (2000). A comparison of the stress-strain process for business owners and nonowners: differences in job demands, emotional exhaustion, satisfaction, and social support. *Journal of Occupational Health Psychology, 5*, 464–476. doi:10.1037/1076-8998.5.4.464
- *Thebaud, S. (2010). Gender and Entrepreneurship as a Career Choice: Do Self-assessments of Ability Matter? *Social Psychology Quarterly, 73*(3), 288–304. doi:10.1177/0190272510377882
- Thurik, R., Khedhaouria, A., Torrès, O., & Verheul, I. (2016). ADHD Symptoms and Entrepreneurial Orientation of Small Firm Owners. *Applied Psychology: An International Review, 65*(03), n/a–

n/a. doi:10.1111/apps.12062

- *Tolentino, L. R., Sedoglavich, V., Lu, V. N., Garcia, P. R. J. M., & Restubog, S. L. D. (2014). The role of career adaptability in predicting entrepreneurial intentions: A moderated mediation model. *Journal of Vocational Behavior*, 85(3), 403–412. doi:10.1016/j.jvb.2014.09.002
- *Totterdell, P., Wood, S., & Wall, T. (2006). An intra-individual test of the demands-control model: A weekly diary study of psychological strain in portfolio workers. *Journal of Occupational and Organizational Psychology*, 79, 63–84. doi:10.1348/096317905x52616
- *Tullar, W. L. (2001). Russian entrepreneurial motive patterns: A validation of the Miner Sentence Completion Scale in Russia. *Applied Psychology: an International Review*, 50, 422–435. doi:10.1111/1464-0597.00065
- *Unger, J. M., Keith, N., Hilling, C., Gielnik, M. M., & Frese, M. (2009). Deliberate practice among South African small business owners: Relationships with education, cognitive ability, knowledge, and success. *Journal of Occupational and Organizational Psychology*, 82, 21–44. doi:10.1348/096317908x304361
- *Utsch, A., & Rauch, A. (2000). Innovativeness and initiative as mediators between achievement orientation and venture performance. *European Journal of Work and Organizational Psychology*, 9(1), 45–62. doi:10.1080/135943200398058
- *Uy, M. A., Chan, K. Y., Sam, Y. L., Ho, M. R., & Chernyshenko, O. S. (2015). Proactivity, adaptability and boundaryless career attitudes: The mediating role of entrepreneurial alertness. *Journal of Vocational Behavior*, 86, 115–123. doi:10.1016/j.jvb.2014.11.005
- Uy, M. A., Foo, M. D., & Aguinis, H. (2010). Using Experience Sampling Methodology to Advance Entrepreneurship Theory and Research. *Organizational Research Methods*, 13(1), 31–54. doi:10.1177/1094428109334977
- *Van den Born, A., & Van Witteloostuijn, A. (2013). Drivers of freelance career success. *Journal of Organizational Behavior*, 34, 24–46. doi:10.1002/job.1786
- Van de Vliert, E., Janssen, O., & Van der Vegt, G. S. (2016). Hard or Easy? Difficulty of Entrepreneurial Startups in 107 Climato-Economic Environments. *Applied Psychology: an International Review*, 65(3), n/a–n/a. doi:10.1111/apps.12057
- Van Gelderen, M. (2016). Autonomy Dynamics of Entrepreneurs. *Applied Psychology: An International Review*, 65(3).
- Van Praag, C. M., & Versloot, P. H. (2008). The Economic Benefits and Costs of Entrepreneurship: A Review of the Research. *Foundations and Trends in Entrepreneurship*, 4(2), 65–154. doi:10.1561/03000000012
- Wach, D., Stephan, U., & Gorgievski, M. J. (2015). More than money: Developing an integrative multi-factorial measure of entrepreneurial success. *International Small Business Journal*, 10.1177/0266242615608469. doi:10.1177/0266242615608469
- *Waters, L., McCabe, M., Kiellerup, D., & Kiellerup, S. (2002). The role of formal mentoring on business success and self-esteem in participants of a new business start-up program. *Journal of Business and Psychology*, 17(1), 107–121. doi:10.1023/A:1016252301072
- *White, R. E., Thornhill, S., & Hampson, E. (2006). Entrepreneurs and evolutionary biology: The relationship between testosterone and new venture creation. *Organizational Behavior and Human Decision Processes*, 100, 21–34. doi:10.1016/j.obhdp.2005.11.001
- *White, R. E., Thornhill, S., & Hampson, E. (2007). A biosocial model of entrepreneurship: the combined effects of nurture and nature. *Journal of Organizational Behavior*, 28, 451–466. doi:10.1002/job.432
- *Wincent, J. (2008). An exchange approach on firm cooperative orientation and outcomes of strategic multilateral network participants. *Group & Organization Management*, 33(3), 303–329.

doi:10.1177/1059601108318184

- *Wincent, J., & Ortqvist, D. (2009). A Comprehensive Model of Entrepreneur Role Stress Antecedents and Consequences. *Journal of Business and Psychology, 24*, 225–243. doi:10.1007/s10869-009-9102-8
- *Winter, D. G. (2010). Why achievement motivation predicts success in business but failure in politics: the importance of personal control. *Journal of Personality, 78*(6), 1637–67. doi:10.1111/j.1467-6494.2010.00665.x
- *Yamamoto, S. H., & Alverson, C. Y. (2014). Factors of Successful Self-Employment Through Vocational Rehabilitation for Individuals With Disabilities. *Journal of Career Assessment, 23*(2), 318–335. doi:10.1177/1069072714535176
- *Zhang, Z., Zyphur, M. J., Narayanan, J., Arvey, R. D., Chaturvedi, S., Avolio, B. J., ... Larsson, G. (2009). The genetic basis of entrepreneurship: Effects of gender and personality. *Organizational Behavior and Human Decision Processes, 110*(2), 93–107. doi:10.1016/j.obhdp.2009.07.002
- *Zhao, H., & Seibert, S. E. (2006). The big five personality dimensions and entrepreneurial status: A meta-analytical review. *Journal of Applied Psychology, 91*, 259–271. doi:10.1037/0021-9010.91.2.259
- *Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology, 90*, 1265–1272. doi:10.1037/0021-9010.90.6.1265

Figure 1. Number of manuscripts on entrepreneur(ship) and business owner(ship) or the self-employed published in top-psychology journals in the period 2000 – 2015.

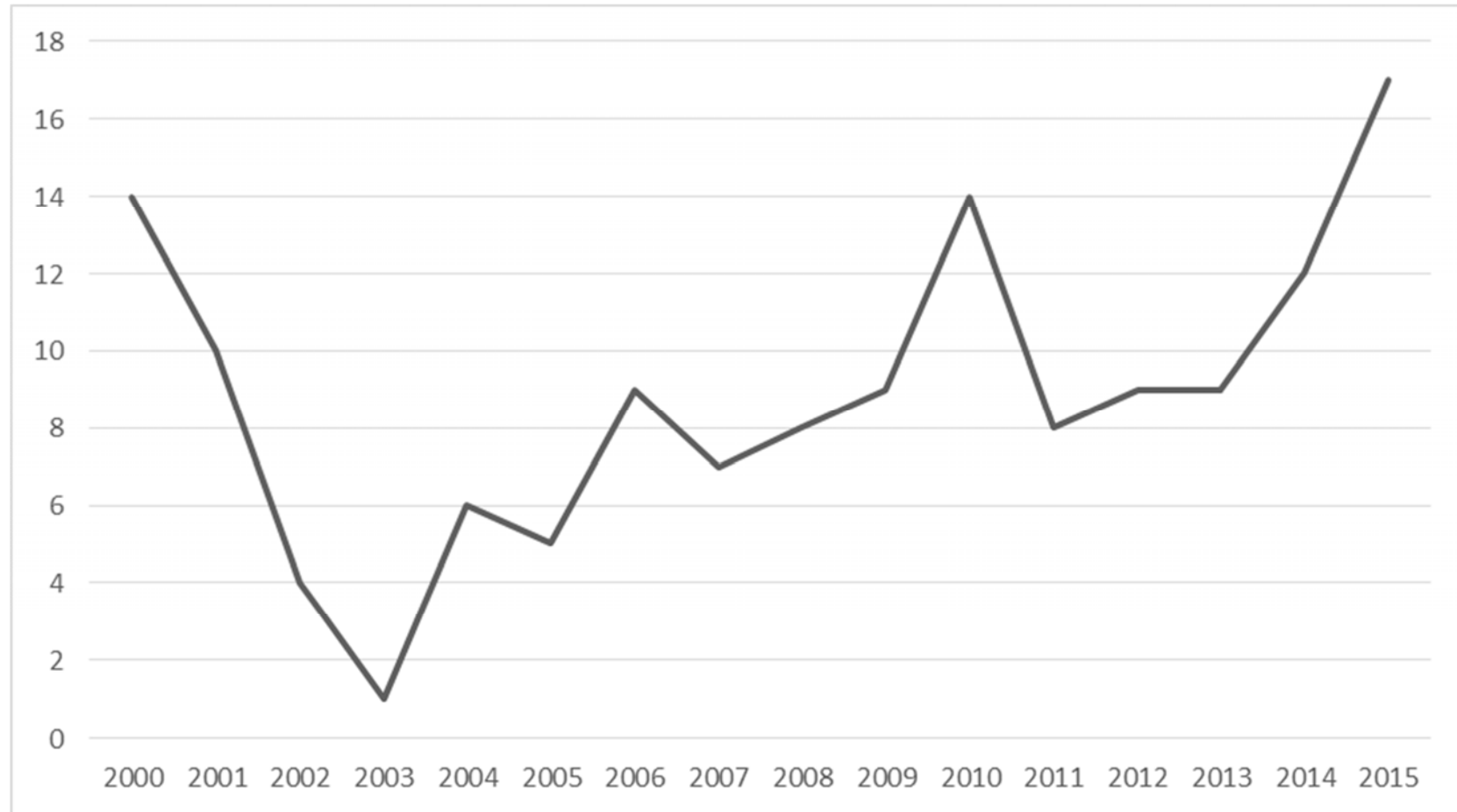


Figure 2. Count of research themes and methodologies in manuscripts on entrepreneur(ship), business owner(ship) or the self-employed published in leading psychology journals in the period 2000 – 2015

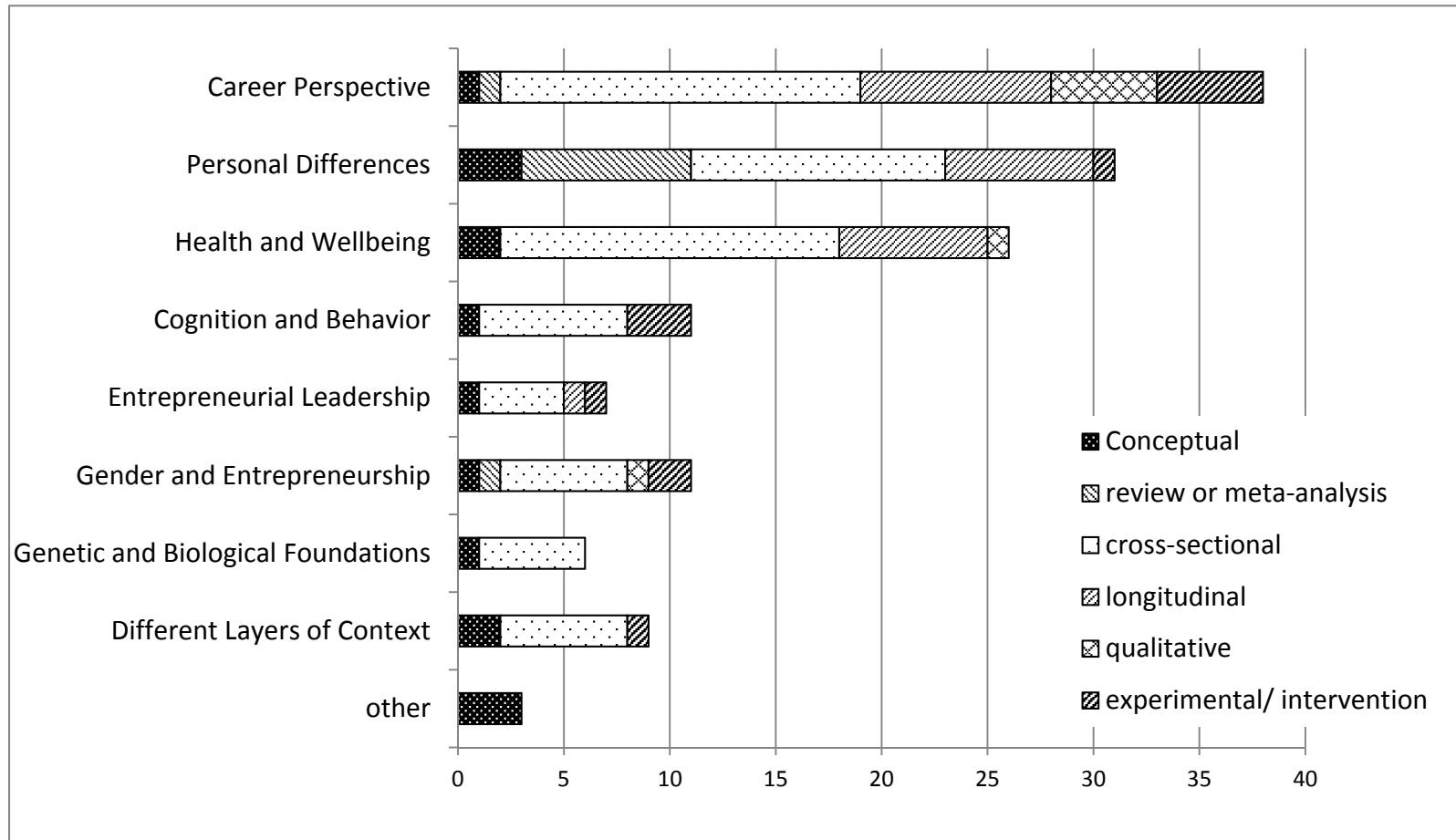
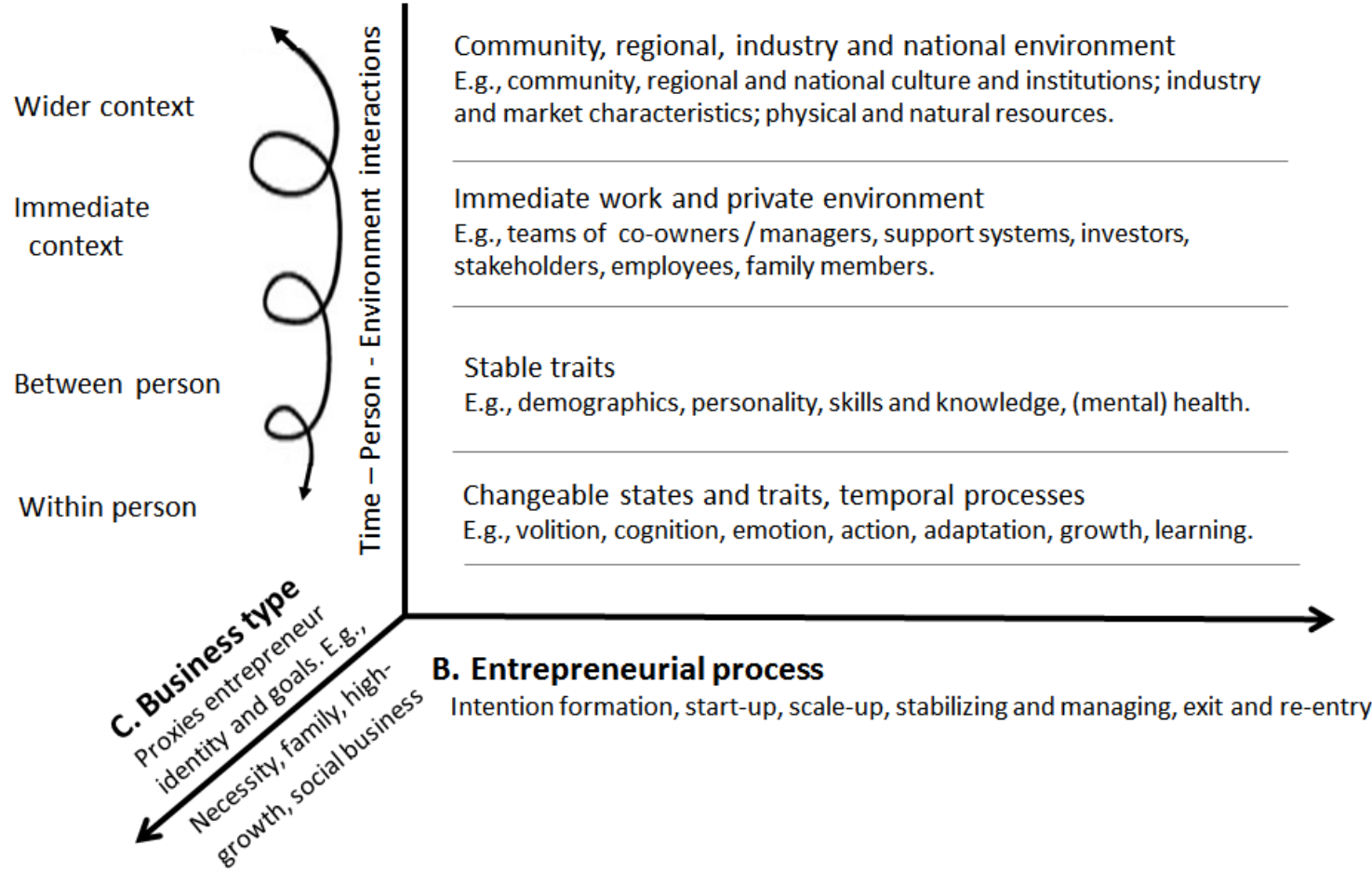


Figure 3. A Tentative Framework for Psychological Entrepreneurial Research: The Entrepreneur and Entrepreneurial Process viewed in Nested Levels of Analyses

A. Nested levels of analyses



Online material, Review results

Table 1

Number of manuscripts on entrepreneur(ship) and business owner(ship) or the self-employed published in top-psychology journals in the period 2000 – 2015

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Applied Psychology: International Review	1	1	1							1					2	1	7
European Journal of Social Psychology		1															1
European Journal of Work Organizational Psychology	9					1		1							2	1	14
Group Organizational Management								1	1		1	1					5
Journal of Applied Psychology		2			3	1	2	1	2	1	1			1	1		15
Journal of Behavioral Decision Making								1									1
Journal of Business Psychology		1	1				1			2	1		1		1	1	9
Journal of Career Assessment											1	1	1	2	1	2	7
Journal of Career Development												1	1			1	3
Journal of Managerial Psychology	1					1			2				2		2	4	12
Journal of Occupational and Organizational Psychology							1			1	4	1					7
Journal of Occupational Health Psychology	2	1				1	1			1					1	1	8
Journal of Organizational Behavior		2				1		2			2		1	1			9
Journal of Personality											1						1
Journal of Personality and Social Psychology		1												1			2
Journal of Vocational Behavior	1		1	1	1		1		2		1	1	2	2	1	3	17
Leadership Quarterly					1		1				1			1			4
Organizations and Behavioral Human Decision-making							1	1		3							5
Personality and Individual Differences												2	1	1	1	1	6
Personnel Psychology												1				1	2
Research in Organizational Behavior		1	1													1	3
Social Psychology Quarterly											1						1
Work Stress					1		1		1								3
Total	14	10	4	1	6	5	9	7	8	9	14	8	9	9	12	17	142

Table 2, Overview of reviewed articles per domain

Area 1: Careers Perspective

Authors	Method	Sample	Major findings
1. Almeida, Ahmetoglu, & Chamorro-Premuzic (2014)	Cross-sectional	565 working adults	Entrepreneurial tendencies and abilities were a stronger predictor of entrepreneurial activities than entrepreneurial vocational interests.
2. Blonk, Brenninkmeijer, Lagerveld, & Houtman (2006)	Intervention	122 Dutch self-employed on sick leave with mental complaints	Comparison of Cognitive Behavioural Therapy (CBT) with a combined CBT - workplace/individual intervention. Psychological complaints decreased for both groups, but the combined intervention group returned earlier to work.
3. Chan, Ho, Chernyshenko, et al. (2012)	Cross-sectional	10326 University students from Singapore	Scale construction for entrepreneurial, leader and professional career aspirations.
4. Chan, Uy, Chernyshenko, Ho, & Sam (2015)	Cross-sectional	396 and 272 undergraduate students	Pro-active personality and risk aversion had an incremental effect on entrepreneurial versus leadership motivation on top of Big 5 factors, depending on the Big Five measure used and sampling differences.
5. Chevalier, Fouquereau, Gillet, & Demulier (2013)	Cross-sectional	Three samples of 20, 167 and 255 French entrepreneurs respectively	Scale construction to understand post-retirement decisions of entrepreneurs.
6. Cromie (2000)	Review		Review of entrepreneurial attributes, such as need for achievement, locus of control, and creative tendencies, and paper-and-pencil tests of these constructs.
7. Culbertson, Smith, & Leiva (2011)	Cross-sectional	158 college students	Learning-goal orientation and performance-goal orientation predicted entrepreneurial and managerial career anchors when self-efficacy was high.
8. Davis (2003)	Cross-sectional	133 early retirees in oil and gas industry	Organizational tenure, certainty of retirement plans, and career-related pull factors predicted participation in bridge employment after controlling for the effects of age, gender, and marital status. Entrepreneurial orientation did not.
9. Decker, Calo, & Weer (2012)	Cross-sectional	424 college students	Interest in entrepreneurial careers was negatively associated with the need for emotional support and positively associated with the need for positive stimulation from other persons.

Table 2, continued

<i>Area 1: Careers Perspective</i>			
Authors	Method	Sample	Major findings
10. Gelderen, van (2000)	Cross-sectional	462 respondents in a general Dutch sample	Definition and scale construction for a measure of corporate entrepreneurship.
11. Gobel (2000)	Qualitative	1 case	Story of Klaus B. a successful entrepreneur
12. Hirschi (2013)	Longitudinal	1221 German university students	Career choice foreclosure (high decidedness/low exploration) related to more stable entrepreneurial intentions over time. Mature decidedness (high decidedness/high exploration) amplified effects of entrepreneurial intentions on opportunity identification.
13. Hodzic, Ripoll, Lira, & Zenasni (2015)	Intervention	73 unemployed Spanish adults	Results showed a significant increase in perceived employability and entrepreneurial self-efficacy for the intervention group directly after the intervention, not the control group. The experimental group showed more reemployment success and less reemployment delay than the control group.
14. Kyndt & Baert (2015)	Cross-sectional	34968 (aspiring) entrepreneurs in The Netherlands	Validation of an entrepreneurial competencies scale.
15. Moriano, Gorgievski, Laguna, Stephan, & Zarafshani (2012)	Cross-sectional	1074 European university students	Uses theory of planned behavior (TPB) framework, Results support culture-universal effects of attitudes and perceived behavioral control (self-efficacy) on entrepreneurial career intentions, but cultural variation in the effects of subjective norm.
16. Niessen, Binnewies, & Rank (2010)	Longitudinal	131 business founders	Results of a three-wave study with one month intervals shows detachment from the prior work role predicted pursuit of learning and adaptation to the new work role.
17. Obschonka, Andersson, Silbereisen, & Sverke (2013)	Longitudinal	Swedish general sample of 285 males and 370 females	Antisocial rule-breaking behavior, but not registered crime or rule-breaking attitude in adolescence predicted an entrepreneurial career in adulthood in men (but not in women).

Table 2, continued

Area 1: Careers Perspective

Authors	Method	Sample	Major findings
18. Obschonka, Goethner, Silbereisen, & Cantner (2012)	Cross-sectional	488 German scientists (Thuringen Study)	Entrepreneurial intentions were predicted by attitude, social norms, and perceived control. Group identification related negatively to perceived control. Group identification strengthened the TPB predictor-intention links.
19. Obschonka, Silbereisen, Cantner, & Goethner (2014)	Cross sectional and longitudinal samples combined	122 German scientists at Time 3 (Thuringen Study)	Entrepreneurial identity enhanced the relationships between Theory of Planned Behavior predictors and entrepreneurial intentions.
20. Obschonka, Silbereisen, & Schmitt-Rodermund (2010)	Cross-sectional	496 German scientists (Thuringen Study)	Conditional and unconditional entrepreneurial intentions were predicted by entrepreneurial personality and early entrepreneurial competence via control beliefs.
21. Obschonka, Silbereisen, Schmitt-Rodermund, & Stuetzer (2011)	longitudinal	Independent samples of 88 and 148 nascent founders	Human and social capital, early competence and Theory of Planned Behavior constructs (attitudes, social norms and control) predicted start-up success.
22. Peiro, Garcia-Montalvo, & Gracia (2002)	Cross-sectional	Representative sample of 2512 Spanish 16-30 year olds	Passive career planning predicted resisting self-employment.
23. Phillips, Lee, Ghobadian, O'Regan, & James (2014)	Conceptual		Based on a review of the literature this article provides insights into research linking social innovation with social entrepreneurship and an analytical framework for future research. It explores business concepts rather than psychological concepts.
24. Rehfuss & Di Fabio (2012)	Longitudinal	82 Italian females	Instrument validation: future career autobiography changed from general to more specific themes through training.
25. Schmitt-Rodermund (2004)	Cross-sectional	320 students and 139 small business owners	Big 5 constructs, parental role models and early entrepreneurship experience predicted better entrepreneurship prospects.

Table 2, continued

Area 1: Careers Perspective

Authors	Method	Sample	Major findings
26. Schröder & Schmitt-Rodermund (2006)	Intervention	321 intervention and 302 control group	Enterprising interest had increased more at follow-up 4 ½ weeks later through training in case of non-family background as compared to a family background of entrepreneurship.
27. Schröder & Schmitt-Rodermund (2013)	Cross-sectional Quantitative and qualitative	152 adolescents from business families	Parental relational support and adolescent's perceived entrepreneurial competence predicted autonomous motivation, which related positively to offspring's succession likelihood. Parental control related to introjected motivation.
28. Singh, Saghafi, Ehrlich, & De Noble (2010)	Cross-sectional	133 Mid-career Chinese executives	'Openness' predicted intention to become self-employed, and having a self-employed relative had a positive effect as well.
29. Sköld & Rehn (2007)	Qualitative content analysis	rap songs	Investigates the duality between succeeding in life and remaining loyal to the values of your community or culture and entrepreneurship by disadvantaged community members.
30. St-Jean & Mathieu (2015)	Intervention	162 male + 152 female entrepreneurs from a mentoring program (338 mentors)	Mentoring increased entrepreneurial self-efficacy, which mediated the positive relationship between satisfaction of being an entrepreneur and the intention of staying in the profession. Unexpectedly, mentoring had a negative direct effect on entrepreneurial continuance intention.
31. Svejnova, Mazza, & Planellas (2007)	Qualitative	1 case	A case study exploring how institutional entrepreneurs initiate change.
32. Tolentino, Sedoglavich, Lu, Garcia, & Restubog (2014)	Longitudinal	180 Serbian business students at T3	Career adaptability was positively associated with entrepreneurial intentions. The mediated relationship between career adaptability and entrepreneurial intentions via entrepreneurial self-efficacy was stronger for individuals with prior exposure to family business.
33. Tullar (2001)	Longitudinal	120 Russian owner / managers; 58 at follow-up at 4 years	Cross-cultural validation of the Miner sentence completion test which captures several aspects of achievement motivation in Russia with reference to US norm data, only one aspect 'self-achievement' was related to subsequent entrepreneurial behavior.

Table 2, continued

Area 1: Careers Perspective

Authors	Method	Sample	Major findings
34. Uy, Chan, Sam, Ho, & Chernyshenko (2015)	Longitudinal	750 undergraduates in Singapore	Entrepreneurial alertness to opportunities partially mediated the relation of proactive personality to boundaryless career mindset and career adaptability, but not to self-directed or protean career attitudes.
35. Van den Born & Van Witteloostuijn (2013)	Cross sectional qualitative	1600 and 51 (qualitative part) Dutch professionals	The external environment in which an individual freelancer operates was the most important factor determining freelance career success.
36. Waters, McCabe, Kiellerup, & Kiellerup (2002)	Intervention	77 mentors and protégés	Protégé perceptions of business success were predicted by the frequency of mentor contact and the level of career-related support provided by their mentor. Mentors perception of the support they provided was higher than te support perceived by the protégé.
37. Yamamoto & Alverson (2014)	Cross-sectional	210000 self-employed with disabilities in US	Successful vocational rehabilitation (case closure percentage per region) depended on accountability systems, levels of support, and individual characteristics of the recipient.

Table 2, continued

<i>Area 2. Personal Differences</i>			
Authors	Method	Sample	Major findings
1. Ahmetoglu, Leutner, & Chamorro-Premuzic (2011)	Cross-sectional	528 UK students, workers and self-employed	Emotional intelligence predicted some forms of entrepreneurial behavior beyond personality.
2. Akhtar, Ahmetoglu, & Chamorro-Premuzic (2013)	Cross-sectional	435 UK students, workers and self-employed	Primary psychopathy related to entrepreneurial tendencies and abilities (META), and modestly predicted some entrepreneurial outcomes. No relationships were found with secondary psychopathy.
3. Armstrong & Hird (2009)	Cross-sectional	81 early stage and 50 mature entrepreneurs	Entrepreneurs were more intuitive and less analytic than non-entrepreneurs in their cognitive style. Being intuitive related to stronger drive towards entrepreneurial behavior. Entrepreneurial drive was higher during early stages of venture creation than in mature stages.
4. Baum, Bird, & Singh (2011)	Longitudinal	22 entrepreneurs and 283 associates	Relevant venture/industry experience interacted with learning orientations to predict practical intelligence, which in turn predicted higher self-reported venture growth over the next 3 years.
5. Baum & Locke (2004)	Longitudinal	229 CEOs and 106 founders in graphics industry	Goals, self-efficacy, and communicated vision had direct effects on venture growth, and these factors mediated the effects of passion, tenacity, and new resource skill on business growth six years later.
6. Brandstaetter (2011)	Review of meta-analyses		Big Five personality traits differentiated entrepreneurs from managers and predicted entrepreneurial intentions and performance. Readiness for innovation, proactive personality, generalized self-efficacy, stress tolerance, need for autonomy, and locus of control also correlated with business creation and success.
7. Canedo, Stone, Black, & Lukaszewski (2014)	Conceptual review	Spanish entrepreneurs	This paper highlights potential obstacles affecting the behavior of Hispanic entrepreneurs (e.g., values, education and social networks) and provides a theoretical model to guide research on Hispanic entrepreneurs.
8. Chapman (2000)	Conceptual		This article highlights the importance of intuition as one of the core abilities of entrepreneurs and the role of language to understand how entrepreneurs construct their worlds.

Table 2, continued

<i>Area 2. Personal Differences</i>			
Authors	Method	Sample	Major findings
1. Chell (2000)	Conceptual		Provides a theoretical framework on entrepreneurial personality in the context of the social construction of their business reality.
2. Coelho (2010)	Review		Review on the impact of unrealistic optimism and implications for decision making, showing most people are prone to unrealistic optimism when making decisions and the topic is under-researched.
3. Frese & Fay (2001)	Conceptual		Development of the personal initiative concept including links to entrepreneurship.
4. Hansemark (2000)	Longitudinal	25 Swedish participants of an entrepreneurship program versus 66 controls	Explores Need for Achievement. The Cesarec-Markes Personal Scheme (CMPS) measure predicted business start-up at follow-up 11 years later, but the Thematic Apperception Test (TAT) did not.
5. Korunka, Kessler, Frank, & Lueger (2010)	Longitudinal	283 business owners at last follow-up	A larger part of the variance in long-term business survival was explained when environment/resource interactions were entered in the equation on top of start-up size and social capital.
6. Krauss, Frese, Friedrich, & Unger (2005)	Cross-sectional	248 South African small business owners	Individuals' Entrepreneurial Orientation (personal initiative, achievement-, and risk-taking orientation) related to larger business size and growth.
7. Leutner, Ahmetoglu, Akhtar, & Chamorro-Premuzic (2014)	Cross-sectional	670 online participants, of which 27% self-employed	Big 5 and entrepreneurial tendencies and abilities (META) related to self-reported entrepreneurial performance and behavior (including social, corporate and innovative entrepreneurship behaviors).
8. Markman, Baron, & Balkin (2005)	Cross-sectional	217 patent inventors	Perseverance and self-efficacy related to regretful thinking and higher annual earnings.
9. Mathieu & St-Jean (2013)	Cross-sectional	655 students in Canada (108 entrepreneurial); 98 employees with a disorder; 116 white collar workers	Narcissism correlated positively with general self-efficacy, locus of control and risk propensity and predicted entrepreneurial intentions after controlling for these personality traits.

Table 2, continued

<i>Area 2. Personal Differences</i>			
Authors	Method	Sample	Major findings
10. Miner & Raju (2004)	Meta-analysis		Conducted meta-analyses replicating Steward and Roth's (2001) meta-analysis but incorporating additional studies. Concludes that the relation between entrepreneurship and risk taking is inconclusive.
11. Mumford, Connelly, Helton, Van Doorn, & Osburn (2002)	Experiment	195 US undergraduates	Only indirect values measures and not direct values measures predicted performance on entrepreneurial, consulting and management tasks.
12. Nieß & Biemann (2014)	Longitudinal	4973 people from the German socio economic panel	Risk propensity positively predicted the decision to become self-employed, but the relationship between risk propensity and self-employment survival 7 years later followed an inverted U-shaped curve.
13. Ntalianis, Dyer, & Vandenberghe (2015)	Multi-level, cross-sectional	253 employees and 50 small business owners	Business owners' conscientiousness related to lower psychological contract breach as experienced by their employees.
14. Obschonka, Schmitt-Rodermund, Silbereisen, Gosling, & Potter (2013)	Cross-sectional	619397 US residents in 51 states; 1984214 German residents in 14 states; 15617 UK residents in 12 states	There is a match between the regional distribution of the entrepreneurial profile and business creation per region.
15. Oh & Kilduff (2008)	Cross-sectional	162 Korean expatriate entrepreneurs in Canada	Social network brokerage positions of entrepreneurs are related to their self-monitoring personality and self-presentation.
16. Rauch & Frese (2007)	Meta-analysis		Lower order personality traits that are relevant to the tasks of entrepreneurs were predictive of business entry and performance (including self-efficacy, achievement motivation, proactive personality, innovativeness, risk propensity, stress tolerance etc.).
17. Sommer & Welsh (2000)	Cross-sectional	194 Russian entrepreneurs	Russian entrepreneurs had more Machiavellistic (opportunistic) ethical values as compared to US norm groups.

Table 2, continued

<i>Area 2. Personal Differences</i>			
Authors	Method	Sample	Major findings
18. Steward & Roth (2004)	Meta-analysis		The risk propensity difference between entrepreneurs versus managers depended on test type (negative for Miner projective measure versus positive in expected direction for self-report measures and choice-dilemma questionnaire measures of risk propensity).
19. Steward & Roth (2001)	Meta-analysis		Entrepreneurs had higher risk propensity than managers.
20. Utsch & Rauch (2000)	Cross-sectional	201 entrepreneurs	Innovativeness but not personal initiative mediated the achievement orientation–venture performance relationship.
21. Winter (2010)	Longitudinal	113 male MBA students, of which 46 prior startup	The relationship between need for achievement and performance was only significant when control is high, in other cases it could lead to frustration and authoritarianism.
22. Zhao & Seibert (2006)	Meta-analysis		Entrepreneurs had different personality profiles as compared to managers (entrepreneurs had higher openness, conscientiousness, and lower agreeableness and neuroticism than managers, no difference in extraversion).
23. Zhao, Seibert, & Hills (2005)	Longitudinal	265 MBA students	Entrepreneurial self-efficacy (at t2) mediated the effect of entrepreneurial experience (t1), risk propensity (t1) and perceptions of learning (t2) on entrepreneurial intentions (t2).

Table 2, continued

Area 3: Health and Well-being

Authors	Method	Sample	Major findings
1. Baron (2010)	Conceptual		Commentary on the mutual gains of integrating job design and entrepreneurship research.
2. Boles, Dean, Ricks, Short, & Wang (2000)	Cross-sectional	183 teachers and 157 self-employed in US	Evidence for the three factor structure of the Maslach Burnout Inventory.
3. Cardon & Patel (2013)	Longitudinal	688 employees and 688 self-employed in US	Self-employed reported higher stress levels, which had a positive effect on income and negative effect on physical health four years later. Positive affect moderated both relationships.
4. Ettner & Grzywacz (2001)	Cross-sectional	70 self-employed, 1948 other employees in US	Objective and subjective job features had an impact on perceived health, also when controlling for personality characteristics.
5. Felfe, Schmook, Schyns, & Six (2008)	Cross-sectional	441 German employees, 53 self-employed	Results showed incremental validity of commitment to employment-type in predicting organizational outcomes.
6. Foo, Uy, & Baron (2009)	Longitudinal	46 entrepreneurs incubator Philippines	Negative affect predicted effort toward immediate tasks. Positive affect predicted venture effort, mediated through future temporal focus.
7. Gorgievski, Bakker, Schaufeli, van der Veen, & Giesen (2010)	Longitudinal	260 Dutch agricultural entrepreneurs	Experiencing financial problems predicted psychological distress and intentions to quit the business, which in turn, predicted a further deterioration of the objective financial situation of the business 1 year later.
8. Gorgievski-Duijvesteijn, Giesen, & Bakker (2000)	Longitudinal	91 Dutch dairy farm couples	Farmers' health complaints predicted farm-couples' financial problems and wives' health complaints 10 years later.
9. Gorgievski-Duijvesteijn, Bakker, Schaufeli, & van der Heijden (2005)	Longitudinal	513 Dutch agricultural entrepreneurs	Increased levels of financial problems temporarily increased psychological distress. Higher stable baselines of psychological distress and self-reported illness related to stronger increases in experienced financial problems.
10. Gorgievski, Moriano & Bakker (2014)	Cross-sectional	180 Spanish entrepreneurs	Work engagement related favorably to performance through its relationship with more positive affect and less negative affect. Workaholism related to more negative affect, which in turn related negatively to performance.

Table 2, continued

Area 3: Health and Well-being

Authors	Method	Sample	Major findings
11. Grant, Fried, Parker, & Frese (2010)	Conceptual		Cross-disciplinary, cross-level and cross-cultural perspective on job design. Different contexts of job design and forms of proactive behavior are discussed.
12. Obschonka & Silbereisen (2015)	Cross-sectional	1448 German national representative sample, among which 130 self employed	The self-employed, compared to wage-earners, enjoyed higher levels of job satisfaction because they are confronted with fewer negative changes. Increasing nonstandard work hours and job autonomy had differential effects on wage-earners versus self-employed individuals.
13. Parslow, Jorm, Christensen, et al. (2004)	Cross-sectional	2275 Australian national representative sample, among which 323 self-employed	Self-employment did not have health benefits for men, female self-employed reported worse health than female wage-earners.
14. Parasuraman & Simmers (2001)	Cross-sectional	386 US general sample, among which 99 self-employed	Self-employed reported higher levels of positive work-related attitudes. However, they experienced more work-family conflict and lower family satisfaction.
15. Payne & Webber (2006)	Cross-sectional	249 hairstylists, of which 133 owners, plus one of their customers	High levels of job satisfaction or affective commitment predicted service-oriented Organizational Citizenship Behavior for employees and owners. High levels of both variables predicted service-oriented OCB for owners only.
16. Pollack, Vanepps, & Hayes (2012)	Cross-sectional	262 US entrepreneurs	Relation between economic stress and withdrawal from entrepreneurial opportunities was weaker for those who report more social ties. Less contact to social ties and economic stress resulted in greater depressive affect which in turn resulted in greater withdrawal from entrepreneurship.
17. Prottas & Thompson (2006)	Cross-sectional	2810 employees, 222 owners, 472 independent self-employed in US	Both owners and independent contractors had higher levels of autonomy than organizational employees, only independent contractors showed lower levels of job pressure.
18. Roche, Haar, & Luthans (2014)	longitudinal	590 managers and 107 entrepreneurs from New Zealand	Mindfulness mediated the relationship between Psychological Capital and dysfunctional health outcomes.

Table 2, continued

Area 3: Health and Well-being

Authors	Method	Sample	Major findings
19. Rubino, Luksyte, Perry, & Volpone (2009)	Cross-sectional	284 self-employed made business from hobby (Houston)	Intrinsic motivation mediated the relation between perceived fit and the burnout dimension inefficacy. Perceived fit and intrinsic motivation were not related to the other two burnout dimensions. Role ambiguity only had an effect on inefficacy.
20. Schonfeld & Mazzola (2015)	qualitative	54 Solo business US	Identification of stressors associated with self-employment. Self-employed use more problem-based than emotion-based coping. Humanitarian coping was identified as a third type of coping.
21. Srivastava, Locke, & Bartol (2001)	Cross-sectional	145 entrepreneurs plus business student samples (in total 998) in US	scale construction to identify motives for making money: social comparison, seeking power, showing off, and overcoming self-doubt.
22. Stephan & Roesler (2010)	Cross-sectional	National representative German sample of 149 entrepreneurs and 149 matching non-entrepreneurs.	Entrepreneurs showed significantly lower overall somatic and mental morbidity, lower blood pressure, lower prevalence rates of hypertension, and somatoform disorders, as well as higher well-being and more favorable behavioral health indicators.
23. Taris, Geurts, Schaufeli, Blonk, & Lagerveld (2008)	Cross-sectional	477 Dutch self-employed	One component of workaholism (inability to detach from work) was related to ill health outcomes, whereas the other (working long hours) was not.
24. Tetrick, Slack, Da Silva, & Sinclair (2000)	Cross-sectional	160 Michigan morticians, of which 77 self-employed	Owners had less social support from work-related sources, lower levels of role ambiguity and role conflict, less emotional exhaustion, and higher levels of job satisfaction and professional satisfaction than non-owners. Social support moderated the relationship between emotional exhaustion and job satisfaction.
25. Totterdell, Wood, & Wall (2006)	Longitudinal	65 portfolio workers	Psychological strain was related to temporal variations in job characteristics. Optimism moderated the effect of low control and high demands on anxiety and depression.
26. Wincent & Ortqvist (2009)	Cross-sectional	282 Swedish entrepreneurs	Role stress mediated the relationship between personality-traits, organizational/environmental characteristics and higher-order conceptualizations of rewards and exhaustion.

Table 2, continued

<i>Area 4: Cognition and Behavior</i>			
Authors	Method	Sample	Major findings
1. Allinson, Chell, & Hayes (2000)	Cross-sectional	156 founders of high growth businesses versus 546 managers	Entrepreneurs were more intuitive in cognitive style than a general population of managers, junior and middle manager. Entrepreneurs were similar in cognitive style to senior managers and executives.
2. Astebro, Jeffrey, & Adomdza (2007)	Cross-sectional	780 inventors versus 300 Canadians general population	Inventors were more overconfident and optimistic than the general population; they tended to spend time and money on projects even after advice to cease efforts.
3. Beefink, van Eerde, Rutte, & Bertrand (2012)	Cross-sectional	276 Dutch architects	Innovative cognitive style related positively to self-rated design success. Self-regulation related to self-rated business success. Self-efficacy played a mediating role in both relationships.
4. Frese, Krauss, Keith, et al. (2007)	Cross-sectional	408 African micro businesses	Elaborate and proactive planning related to business size and success; it partially mediated the relationship between cognitive resources and business success.
5. Gielnik, Krämer, Kappel, & Frese (2014)	Cross-sectional	100 African business owners	Entrepreneurial experience and divergent thinking both related to opportunity identification. Active information search moderated both relations. Opportunity identification had a direct effect on innovativeness.
6. Huang, Frideger, & Pearce (2013)	Experiment	179 undergraduate students (hiring decisions) versus 901 entrepreneurs' pitches	Non-native accent negatively affected the likelihood of receiving funding, mediated by perceived political skills.
7. Macko & Tyszka (2009)	Experiment	44 students with ep intentions, 42 students without ep intentions and 40 alumni entrepreneurs	Entrepreneurs took bigger risks when making decisions only if the decision was business related and self-confidence high.
8. Moore & Cain (2007)	Experiment	91 people in market entry game 128 undergraduates in a knowledge quiz.	Better information on own than on others performance on skill-based tasks leads to over/under confidence.

Table 2, continued

<i>Area 4: Cognition and Behavior</i>			
Authors	Method	Sample	Major findings
9. Sadler-Smith (2015)	Conceptual		Theories of dual-processing and models of business venturing are linked to a model of entrepreneurial intuition.
10. Unger, Keith, Hilling, Gielnik, & Frese (2009)	Cross sectional, qualitative and quantitative	90 South African business owners	Cognitive ability and education were antecedents of deliberate practice.
11. Wincent (2008)	Cross sectional, qualitative and quantitative	54 firms in the Swedish Wood industry	Innovativeness (ns) , network connectedness (ns) and orientation (getting rather than investing) predicted changes (difference scores) in firm success.

Table 2, continued

<i>Area 5: Entrepreneurial Leadership</i>			
Authors	Method	Sample	Major findings
1. Bernhard & O'Driscoll (2011)	Multi-level cross-sectional	229 non family employees in 52 family owned firms	Owners' transformational and transactional leadership style facilitated employees' psychological ownership for the family business and the job. Psychological ownership mediated the relationship between leadership style and employees' affective organizational commitment, job satisfaction and turnover intentions.
2. Cogliser & Brigham (2004)	Conceptual		Presentation of models combining leadership and entrepreneurship theories, historical perspectives on leadership and entrepreneurship.
3. Ensley, Hmieleski, & Pearce (2006)	Cross-sectional	168 managers (74% founders; 90% called themselves entrepreneurs) of 66 firms	Vertical and shared leadership (transformational, transactional, empowering, and directive leadership) predicted new venture performance; shared leadership explained variance beyond what is explained by vertical leadership.
4. Hmieleski & Ensley (2007)	Cross-sectional	168 managers (74% founders; 90% called themselves entrepreneurs) of 66 firms	Directive leadership was more effective in dynamic industries with heterogeneous management teams and in stable industries with homogenous management teams. Empowering leadership was more effective in dynamic industries with homogenous management teams and in stable industries with heterogeneous management teams.
5. Ozcelik, Langton, & Aldrich (2008)	Longitudinal	292 entrepreneurs and small business owners in Vancouver/ Canada	Positive emotional climate practices related to company performance, revenue growth, and outcome growth 18 months later.
6. Ruvio, Rosenblatt, & Hertz-Lazarowitz (2010)	Cross-sectional	78 non-profit; 78 for profit entrepreneurs	In non-profit organizations, vision was associated with wide-range strategy, venture performance and growth. In business enterprises differentiation strategy mediated the relationship between vision and venture performance and growth.

Table 2, continued

<i>Area 6: Gender and Entrepreneurship</i>			
Authors	Method	Sample	Major findings
1. Alonso-Galicia, Fernández-Pérez, Rodríguez-Ariza, & Fuentes-Fuentes (2015)	Cross-sectional	500 Spanish academics	The influence of close social groups was perceived differently by men and women, particularly as regards the support received for academics' attitudes and perceptions of control.
2. Baron, Markman, & Hirska (2001)	Experimental	82 and 53 working adults rated 46 + 41 + 20 photo's (study 1,2,3), described as either managers of entrepreneurs	Females were assigned higher scores for personal resources (eg. assertiveness) when presented as entrepreneurs (attributional augmenting).
3. Grant-Vallone & Ensher (2011)	Qualitative	23 female entrepreneurs in California	In-depth interviews show women chose flexible working hours, part-time jobs, or home-based entrepreneurship rather than "opting out" after having children.
4. Gupta, Turban, & Bhawe (2008)	experimental	469 business students	Presenting entrepreneurship (implicitly or explicitly) as masculine, feminine or gender neutral influenced women's entrepreneurial intentions. Neutral was preferred.
5. Jome, Donahue, & Siegel (2006)	Cross-sectional	208 women owning internet businesses	Women used multiple success criteria, different types of women had different types of businesses (e.g., computer knowledge related to type of products and clients).
6. Malach-Pines & Schwartz (2008)	Cross-sectional	514 Israeli adults + 313 Israeli students + 101 business owners	Between working adults and self-employed smaller differences in values and personality were found than between students, supporting the attraction, selecting, attrition model.
7. Muller-Kahle & Schiehl (2013)	Cross-sectional	65 female and 65 male public companies	Female business owners had less structural power as compared to males (more often president as compared to chair). Female CEOs were more likely to gain structural power if they are entrepreneurs, work in large companies, or possess an elite education.
8. Powell & Eddleston (2008)	Cross-sectional	201 US alumni business owners	Females were equally satisfied as compared to males in spite of lower business success. Different values, not different input levels, explained this difference.

Table 2, continued

<i>Area 6: Gender and Entrepreneurship</i>			
Authors	Method	Sample	Major findings
9. Shapiro, Ingols, & Blake-Beard (2008)	Conceptual		Investigates a shift in women's career paradigms.
10. Sullivan & Meek (2012)	Review		Building on a process model of entrepreneurship, this article develops specific propositions for investigating female entrepreneurship issues associated with each stage, motivated by expectancy theory.
11. Thebaud (2010)	Cross-sectional	15242 GEM data, general population	Building on status characteristics theory, results show women were less often entrepreneurs, because they self-assessed their abilities lower.

Table 2, continued

<i>Area 7: Genetic and Biological Foundations</i>			
Authors	Method	Sample	Major findings
1. Nicolaou, Shane, Cherkas, & Spector (2009)	Cross-sectional	855 monozygotic versus 851 dizygotic twins	Evidence for substantial heritability for opportunity recognition with no influence of the shared environment and 53% of the phenotypic correlation between opportunity recognition and the tendency to be an entrepreneur had a common genetic etiology.
2. Shane (2009)	Conceptual		Introduction to a focused issue on the biological basis (genetics, hormones and brain function) and work related behavior.
3. Shane, Nicolaou, Cherkas, & Spector (2010)	Cross-sectional	3412 monozygotic dizygotic UK twins and 1300 monozygotic and dizygotic US twins	Evidence for common genes influencing the Big 5 personality traits Extraversion and Openness to Experience and employment status.
4. White, Thornhill, & Hampson (2006)	Cross-sectional	31 male MBA students with business + 79 male MBA students without business	Testosterone levels predicted new venture behavior mediated by risk propensity.
5. White, Thornhill, & Hampson (2007)	Cross-sectional	male MBA students, 46 with and 79 without prior start-ups	New venture creation was more likely in case of higher testosterone levels and family background of entrepreneurship.
6. Zhang, Zyphur, Narayanan et al. (2009)	Cross sectional	1285 identical + 848 fraternal twins	For females, the tendency to become an entrepreneur was 100% based on genetics. For males, all influence was environmental. Personality mediators are neuroticism and extraversion.

Table 2, continued

<i>Area 8: Different Layers of Context</i>			
Authors	Method	Sample	Major findings
1. Andrews & Rogelberg (2001)	Cross-sectional	221 employees and 35 owners of small businesses	Higher owner values on service climate perception related to lower climate perceptions among employees (false consensus effect).
2. DeVaughn & Leary (2010)	Cross-sectional	129 founding teams	Founding team composition (prior mutual founding experience, diverse industry experience, ownership concentration) predicted business level distress.
3. Ensley & Pearce (2001)	Cross-sectional	66 and 154 new venture top management teams	Shared strategic cognition, i.e. shared understandings and mental models about strategic direction in new venture top management team relate positively to new venture growth.
4. Hill, Wallace, Ridge, et al., (2014)	computer simulation	202 university students in 3rd year course	Input-Process-Output model and intra team processes (TMX) predicted learning and efficacy, which mediated the relationship between co-founding climate and team effectiveness.
5. Khayesi & George (2011)	Cross-sectional	242 self-employed Uganda	Communal orientation, social capital and shared identity (cultural aspects) predicted success and costs of raising resources. Costs were higher in communal environments.
6. Le Breton-Miller & Miller (2014)	Conceptual		Formative experiences in the family can influence commitment, conflict, and motivation in family firms. Family's intention to pass on the firm to later generations can impact leadership, human-resources practices, and corporate cultures.
7. Malach-Pines, Levy, Utasi, & Hill (2005)	Cross-sectional	MBA students, 132 from Israel, 89 from USA, 123 from Hungary	Cross-cultural differences in social status of entrepreneurs related to differences in entrepreneurial intentions and activities.

Table 2, continued

<i>Area 8: Different Layers of Context</i>			
Authors	Method	Sample	Major findings
8. Rooks, Sserwanga, & Frese (2014)	Cross-sectional	290 rural entrepreneurs in Uganda	The personal initiative-firm innovation link was stronger in static collectivist, rural environments compared to dynamic individualistic, urban environments. Examines two mechanisms (social capital and business planning) through which personal initiative influences firm innovation, personal initiative-social capital link was context dependent
9. Sharma, De Massis, & Gagné (2014)	Conceptual		Differences between family-firms and non-family firms are discussed and future lines for research are proposed.
<i>Other</i>			
Authors	Method	Sample	Major findings
10. Donaldson & Walsh (2015).	Conceptual		Based on a review of the literature this article seeks to establish a theory of business, offering four central propositions about the purpose, accountability, control and success of a business.
11. Michael Frese, Chell, & Klandt (2000)	Conceptual		Introduction to the special issue “psychology of entrepreneurship”
12. Hisrich (2000)	Conceptual		Discussion of four papers in the special issue on psychological approaches to studying entrepreneurship.

References

- *Ahmetoglu, G., Leutner, F., & Chamorro-Premuzic, T. (2011). EQ-nomics: Understanding the relationship between individual differences in Trait Emotional Intelligence and entrepreneurship. *Personality and Individual Differences, 51*(8), 1028–1033. doi:10.1016/j.paid.2011.08.016
- *Akhtar, R., Ahmetoglu, G., & Chamorro-Premuzic, T. (2013). Greed is good? Assessing the relationship between entrepreneurship and subclinical psychopathy. *Personality and Individual Differences, 54*(3), 420–425. doi:10.1016/j.paid.2012.10.013
- *Allinson, C. W., Chell, E., & Hayes, J. (2000). Intuition and entrepreneurial behaviour. *European Journal of Work and Organizational Psychology, 9*(1), 31–43. doi:10.1080/135943200398049
- *Almeida, P. I. L., Ahmetoglu, G., & Chamorro-premuzic, T. (2014). Who Wants to Be an Entrepreneur - Relationship Between Vocational Interests and Individual Differences in Entrepreneurship. *Journal of Career Assessment, 22*(1), 102–112. doi:10.1177/1069072713492923
- *Alonso-Galicia, P. E. P. E. , Fernández-Pérez, V., Rodríguez-Ariza, L., & Fuentes-Fuentes, M. del M. (2015). Entrepreneurial cognitions in academia: exploring gender differences. *Journal of Managerial Psychology, 30*(6), 630–644. doi:10.1108/JMP-08-2013-0262
- *Andrews, T. L., & Rogelberg, S. G. (2001). A new look at service climate: its relationship with owner service values in small businesses. *Journal of Business and Psychology, 16*, 119–131. doi:10.1023/a:1007895923389
- *Armstrong, S. J., & Hird, A. (2009). Cognitive Style and Entrepreneurial Drive of New and Mature Business Owner-Managers. *Journal of Business and Psychology, 24*, 419–430. doi:10.1007/s10869-009-9114-4
- *Astebro, T., Jeffrey, S. A., & Adomdza, G. K. (2007). Inventor perseverance after being told to quit: The role of cognitive biases. *Journal of Behavioral Decision Making, 20*, 253–272. doi:10.1002/bdm.554
- *Baron, R. A. (2002). OB and entrepreneurship: The reciprocal benefits of closer conceptual links. *Research in Organizational Behavior, Vol 24, 24*, 225–269. doi:10.1016/s0191-3085(02)24007-1
- *Baron, R. A. (2010). Job design and entrepreneurship: Why closer connections = mutual gains. *Journal of Organizational Behavior, 31*(2-3), 370–378. doi:10.1002/job.607
- *Baron, R. A., Markman, G. D., & Hirska, A. (2001). Perceptions of women and men as entrepreneurs: Evidence for differential effects of attributional augmenting. *Journal of Applied Psychology, 86*, 923–929. doi:10.1037//0021-9010.86.5.923
- *Baum, J. R., Bird, B. J., & Singh, S. (2011). The practical intelligence of entrepreneurs: antecedents and a link with new venture growth. *Personnel Psychology, 64*(2), 397–425. doi:10.1111/j.1744-6570.2011.01214.x
- *Baum, J. R., & Locke, E. A. (2004). The relationship of entrepreneurial traits, skill, and motivation to subsequent venture growth. *Journal of Applied Psychology, 89*(4), 587–598. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/15327346>
- *Beefink, F., van Eerde, W., Rutte, C. G., & Bertrand, J. W. M. (2012). Being Successful in a Creative Profession: The Role of Innovative Cognitive Style, Self-Regulation, and Self-Efficacy. *Journal of Business and Psychology, 27*(1), 71–81. doi:10.1007/s10869-011-9214-9
- *Bernhard, F., & O'Driscoll, M. P. (2011). Psychological Ownership in Small Family-Owned Businesses: Leadership Style and Nonfamily-Employees' Work Attitudes and Behaviors. *Group & Organization Management, 36*(3), 345–384. doi:10.1177/1059601111402684
- *Blonk, R. W. B., Brenninkmeijer, V., Lagerveld, S. E., & Houtman, I. L. D. (2006). Return to work: A comparison of two cognitive behavioural interventions in cases of work-related psychological complaints among the self-employed. *Work and Stress, 20*, 129–144.

doi:10.1080/02678370600856615

- *Boles, J. S., Dean, D. H., Ricks, J. M., Short, J. C., & Wang, G. P. (2000). The dimensionality of the Maslach Burnout Inventory across small business owners and educators. *Journal of Vocational Behavior, 56*, 12–34. doi:10.1006/jvbe.1999.1689
- *Brandstaetter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences, 51*, 222–230. doi:10.1016/j.paid.2010.07.007
- *Canedo, J. C., Stone, D. L., Black, S. L., & Lukaszewski, K. M. (2014). Individual factors affecting entrepreneurship in Hispanics. *Journal of Managerial Psychology, 29*(6), 755–772. doi:10.1108/JMP-11-2012-0333
- *Cardon, M. S., & Patel, P. C. (2013). Is Stress Worth it? Stress-Related Health and Wealth Trade-Offs for Entrepreneurs. *Applied Psychology: International Review, 64*(2), 379–420. doi:10.1111/apps.12021
- *Chan, K. Y., Uy, M. A., Chernyshenko, O. S., Ho, M. R., & Sam, Y. (2015). Personality and entrepreneurial, professional and leadership motivations. *Personality and Individual Differences, 77*, 161–166. doi:10.1016/j.paid.2014.12.063
- *Chan, K. Y., Ho, M. R., Chernyshenko, O. S., Bedford, O., Uy, M. A., Gomulya, D., ... Phan, W. M. J. (2012). Entrepreneurship, professionalism, leadership: A framework and measure for understanding boundaryless careers. *Journal of Vocational Behavior, 81*(1), 73–88. doi:10.1016/j.jvb.2012.05.001
- *Chapman, M. (2000). When the entrepreneur sneezes, the organization catches a cold: A practitioner's perspective on the state of the art in research on the entrepreneurial personality and the entrepreneurial process. *European Journal of Work and Organizational Psychology, 9*(1), 97–101. doi:10.1080/135943200398102
- *Chell, E. (2000). Towards researching the opportunistic entrepreneur: A social constructionist approach and research agenda. *European Journal of Work and Organizational Psychology, 9*(February 2015), 63–80. doi:10.1080/135943200398067
- *Chevalier, S., Fouquereau, E., Gillet, N., & Demulier, V. (2013). Development of the Reasons for Entrepreneurs' Retirement Decision Inventory (RERDI) and Preliminary Evidence of Its Psychometric Properties in a French Sample. *Journal of Career Assessment, 21*(4), 572–586. doi:10.1177/1069072712475288
- *Coelho, M. P. (2010). Unrealistic Optimism: Still a Neglected Trait. *Journal of Business and Psychology, 25*, 397–408. doi:10.1007/s10869-009-9146-9
- *Cogliser, C. C., & Brigham, K. H. (2004). The intersection of leadership and entrepreneurship: Mutual lessons to be learned. *The Leadership Quarterly, 15*(6), 771–799. doi:10.1016/j.leaqua.2004.09.004
- *Cromie, S. (2000). Assessing entrepreneurial inclinations: Some approaches and empirical evidence. *European Journal of Work and Organizational Psychology, 9*(1), 7–30. doi:10.1080/135943200398030
- *Culbertson, S. S., Smith, M. R., & Leiva, P. I. (2011). Enhancing Entrepreneurship: The Role of Goal Orientation and Self-Efficacy. *Journal of Career Assessment, 19*, 115–129. doi:10.1177/1069072710385543
- *Davis, M. A. (2003). Factors related to bridge employment participation among private sector early retirees. *Journal of Vocational Behavior, 63*, 55–71. doi:10.1016/s0001-8791(02)00016-7
- *Decker, W. H., Calo, T. J., & Weer, C. H. (2012). Affiliation motivation and interest in entrepreneurial careers. *Journal of Managerial Psychology, 27*(3), 302–320. doi:10.1108/02683941211205835
- *DeVaughn, M. L., & Leary, M. M. (2010). Antecedents of Failure for Newly Chartered Banks in the

U.S. Banking Industry. *Group & Organization Management*, 35, 666–695.
doi:10.1177/1059601110381495

- *Donaldson, T., & Walsh, J. P. (2015). Research in Organizational Behavior Toward a theory of business. *Research in Organizational Behavior*, 35, 181–207.
- *Dougherty, T. W., Cheung, Y. H., & Florea, L. (2008). The role of personality in employee developmental networks. *Journal of Managerial Psychology*, 23(6), 653–669.
doi:10.1108/02683940810894738
- *Ensley, M. D., Hmieleski, K. M., & Pearce, C. L. (2006). The importance of vertical and shared leadership within new venture top management teams: Implications for the performance of startups. *Leadership Quarterly*, 17, 217–231. doi:10.1016/j.leaqua.2006.02.002
- *Ensley, M. D., & Pearce, C. L. (2001). Shared cognition in top management teams: implications for new venture performance. *Journal of Organizational Behavior*, 22, 145–160. doi:10.1002/job.83
- *Ettner, S. L., & Grzywacz, J. G. (2001). Workers' perceptions of how jobs affect health: A social ecological perspective. *Journal of Occupational Health Psychology*, 6(2), 101–113.
doi:10.1037//1076-8998.6.2.101
- *Felfe, J., Schmook, R., Schyns, B., & Six, B. (2008). Does the form of employment make a difference? - Commitment of traditional, temporary, and self-employed workers. *Journal of Vocational Behavior*, 72, 81–94. doi:10.1016/j.jvb.2007.10.008
- *Foo, M.-D., Uy, M. A., & Baron, R. A. (2009). How Do Feelings Influence Effort? An Empirical Study of Entrepreneurs' Affect and Venture Effort. *Journal of Applied Psychology*, 94, 1086–1094. doi:10.1037/a0015599
- *Frese, M., Chell, E., & Klandt, H. (2000). Introduction. *European Journal of Work and Organizational Psychology*, 9(1), 3–6. doi:10.1080/135943200398021
- *Frese, M., & Fay, D. (2001). Personal initiative: An active performance concept for work in the 21st century. *Research In Organizational Behavior*, 23, 133–187. doi:10.1016/S0191-3085(01)23005-6
- *Frese, M., Krauss, S. I., Keith, N., Escher, S., Grabarkiewicz, R., Luneng, S. T., ... Friedrich, C. (2007). Business owners' action planning and its relationship to business success in three African countries. *Journal of Applied Psychology*, 92(6), 1481–1498. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18020791>
- *Gelderens, M. Van. (2000). Enterprising behaviour of ordinary people. *European Journal of Work and Organizational Psychology*, 9(1), 81–88. doi:10.1080/135943200398076
- *Gielnik, M. M., Krämer, A.-C., Kappel, B., & Frese, M. (2014). Antecedents of Business Opportunity Identification and Innovation: Investigating the Interplay of Information Processing and Information Acquisition. *Applied Psychology: International Review*, 63(2), 344–381.
doi:10.1111/j.1464-0597.2012.00528.x
- *Gobel, S. (2000). Klaus B: The success story of an entrepreneur - a case study. *European Journal of Work and Organizational Psychology*, 9(1), 89–92. doi:10.1080/135943200398085
- *Gorgievski, M. J., Bakker, A. B., Schaufeli, W. B., van der Veen, H. B., & Giesen, C. W. M. (2010). Financial problems and psychological distress: Investigating reciprocal effects among business owners. *Journal of Occupational and Organizational Psychology*, 83, 513–530.
doi:10.1348/096317909x434032
- *Gorgievski, M. J., Moriano, J. A., & Bakker, A. B. (2014). Relating work engagement and workaholism to entrepreneurial performance. *Journal of Managerial Psychology*, 29(2), 106–121. doi:10.1108/jmp-06-2012-0169
- *Gorgievski-Duijvesteijin, M. J., Giesen, C. W. M., & Bakker, A. B. (2000). Financial problems and health complaints among farm couples: Results of a 10-yr follow-up study. *Journal of*

Occupational Health Psychology, 5(3), 359–373. doi:10.1037//1076-8998.5.3.359

- *Gorgievski-Duijvesteijn, M. J., Bakker, A. B., Schaufeli, W. B., & van der Heijden, P. G. M. (2005). Finances and well-being: a dynamic equilibrium model of resources. *Journal of Occupational Health Psychology*, 10(3), 210–24. doi:10.1037/1076-8998.10.3.210
- *Grant, A. M., Fried, Y., Parker, S. K., & Frese, M. (2010). Putting job design in context: Introduction to the special issue. *Journal of Organizational Behavior*, 31(2-3), 145–157. doi:10.1002/job.679
- *Grant-Vallone, E. J., & Ensher, E. A. (2011). Opting In Between: Strategies Used by Professional Women With Children to Balance Work and Family. *Journal of Career Development*, 38, 331–348. doi:10.1177/0894845310372219
- *Gupta, V. K., Turban, D. B., & Bhawe, N. M. (2008). The effect of gender stereotype activation on entrepreneurial intentions. *Journal of Applied Psychology*, 93, 1053–1061. doi:10.1037/0021-9010.93.5.1053
- *Hansemark, O. C. (2000). Predictive validity of TAT and CMPS on the entrepreneurial activity, “start of a new business”: a longitudinal study". *Journal of Managerial Psychology*, 15(7), 634–654. doi:10.1108/02683940010378036
- *Hill, A. D., Craig Wallace, J., Ridge, J. W., Johnson, P. D., Paul, J. B., & Suter, T. a. (2014). Innovation and Effectiveness of Co-Founded Ventures: A Process Model. *Journal of Business and Psychology*, 29(1), 145–159. doi:10.1007/s10869-013-9306-9
- *Hirschi, A. (2013). Career Decision Making, Stability, and Actualization of Career Intentions: The Case of Entrepreneurial Intentions. *Journal of Career Assessment*, 21(4), 555–571. doi:10.1177/1069072712475287
- *Hisrich, R. D. (2000). Can psychological approaches be used effectively: An overview. *European Journal of Work and Organizational Psychology*, 9(1), 93–96. doi:10.1080/135943200398094
- *Hmieleski, K. M., & 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, 865–889. doi:10.1002/job.479
- *Hodzic, S., Ripoll, P., Lira, E., & Zenasni, F. (2015). Can intervention in emotional competences increase employability prospects of unemployed adults? *Journal of Vocational Behavior*, 88, 28–37. doi:10.1016/j.jvb.2015.02.007
- *Huang, L., Frideger, M., & Pearce, J. L. (2013). Political skill: explaining the effects of nonnative accent on managerial hiring and entrepreneurial investment decisions. *The Journal of Applied Psychology*, 98(6), 1005–17. doi:10.1037/a0034125
- *Jome, L. M., Donahue, M. P., & Siegel, L. A. (2006). Working in the uncharted technology frontier: Characteristics of women web entrepreneurs. *Journal of Business and Psychology*, 21, 127–147. doi:10.1007/s10869-005-9019-9
- *Khayesi, J. N. O., & George, G. (2011). When does the socio-cultural context matter? Communal orientation and entrepreneurs’ resource accumulation efforts in Africa. *Journal of Occupational and Organizational Psychology*, 84, 471–492. doi:10.1111/j.2044-8325.2011.02029.x
- *Korunka, C., Kessler, A., Frank, H., & Lueger, M. (2010). Personal characteristics, resources, and environment as predictors of business survival. *Journal of Occupational and Organizational Psychology*, 83(4), 1025–1051. doi:10.1348/096317909X485135
- *Krauss, S. I., Frese, M., Friedrich, C., & Unger, J. M. (2005). Entrepreneurial orientation: A psychological model of success among southern African small business owners. *European Journal of Work and Organizational Psychology*, 14, 315–344. doi:10.1080/13594320500170227
- *Kyndt, E., & Baert, H. (2015). Entrepreneurial competencies: Assessment and predictive value for entrepreneurship. *Journal of Vocational Behavior*, 90, 13–25. doi:10.1016/j.jvb.2015.07.002

- *Landstrom, H., & Lohrke, F. (2015). New Advantage and Liability Sources in Entrepreneurial Firms: Assessing Progress and Exploring Possibilities. *Group & Organization Management*, 40(1), 121–124. doi:10.1177/1059601114568240
- *Le Breton-Miller, I., & Miller, D. (2014). Temporal considerations in the study of family firms: Reflections on “the study of organizational behaviour in family business.” *European Journal of Work and Organizational Psychology*, 23(5), 669–673. doi:10.1080/1359432X.2014.907276
- *Leutner, F., Ahmetoglu, G., Akhtar, R., & Chamorro-Premuzic, T. (2014). The relationship between the entrepreneurial personality and the Big Five personality traits. *Personality and Individual Differences*, 63, 58–63. doi:10.1016/j.paid.2014.01.042
- *Macko, A., & Tyszka, T. (2009). Entrepreneurship and Risk Taking. *Applied Psychology-an International Review*, 58, 469–487. doi:10.1111/j.1464-0597.2009.00402.x
- *Malach-Pines, A., Levy, H., Utasi, A., & Hill, T. L. (2005). Entrepreneurs as cultural heroes: A cross-cultural, interdisciplinary perspective. *Journal of Managerial Psychology*, 20(6), 541–555. doi:10.1108/02683940510615460
- *Malach-Pines, A., & Schwartz, D. (2008). Now you see them, now you don't: gender differences in entrepreneurship. *Journal of Managerial Psychology*, 23(7), 811–832. doi:10.1108/02683940810896358
- *Markman, G. D., Baron, R. A., & Balkin, D. B. (2005). Are perseverance and self-efficacy costless? Assessing entrepreneurs' regretful thinking. *Journal of Organizational Behavior*, 26(1), 1–19. doi:10.1002/job.305
- *Mathieu, C., & St-Jean, É. (2013). Entrepreneurial personality: The role of narcissism. *Personality and Individual Differences*, 55(5), 527–531. doi:10.1016/j.paid.2013.04.026
- *Miner, J. B., & Raju, N. S. (2004). Risk propensity differences between managers and entrepreneurs and between low- and high-growth entrepreneurs: A reply in a more conservative vein. *Journal of Applied Psychology*, 89, 3–13. doi:10.1037/0021-9010.89.1.3
- *Moore, D. A., & Cain, D. M. (2007). Overconfidence and underconfidence: When and why people underestimate (and overestimate) the competition. *Organizational Behavior and Human Decision Processes*, 103, 197–213. doi:10.1016/j.obhdp.2006.09.002
- *Moriano, J. A., Gorgievski, M., Laguna, M., Stephan, U., & Zarafshani, K. (2012). A Cross-Cultural Approach to Understanding Entrepreneurial Intention. *Journal of Career Development*, 39(2), 162–185. doi:10.1177/0894845310384481
- *Muller-Kahle, M. I., & Schiehl, E. (2013). Gaining the ultimate power edge: Women in the dual role of CEO and Chair. *Leadership Quarterly*, 24(5), 666–679. doi:10.1016/j.leaqua.2013.05.001
- *Mumford, M. D., Connelly, S., Helton, W. B., Van Doorn, J. R., & Osburn, H. K. (2002). Alternative approaches for measuring values: Direct and indirect assessments in performance prediction. *Journal of Vocational Behavior*, 61, 348–373. doi:10.1006/jvbe.2001.1860
- *Nicolaou, N., Shane, S., Cherkas, L., & Spector, T. D. (2009). Opportunity recognition and the tendency to be an entrepreneur: A bivariate genetics perspective. *Organizational Behavior and Human Decision Processes*, 110(2), 108–117. doi:10.1016/j.obhdp.2009.08.005
- *Nieß, C., & Biemann, T. (2014). The role of risk propensity in predicting self-employment. *Journal of Applied Psychology*, 99(5), 1000–1009. doi:10.1037/a0035992
- *Niessen, C., Binnewies, C., & Rank, J. (2010). Disengagement in work-role transitions. *Journal of Occupational and Organizational Psychology*, 83(3), 695–715. doi:10.1348/096317909X470717
- *Ntalianis, F., Dyer, L. ., & Vandenberghe, C. (2015). Owner-Employee relations in small firms. *Journal of Managerial Psychology*, 30(7), 832–846.
- *Obschonka, M., Andersson, H., Silbereisen, R. K., & Sverke, M. (2013). Rule-breaking, crime, and entrepreneurship: A replication and extension study with 37-year longitudinal data. *Journal of*

Vocational Behavior, 83(3), 386–396. doi:http://dx.doi.org/10.1016/j.jvb.2013.06.007

- *Obschonka, M., Goethner, M., Silbereisen, R. K., & Cantner, U. (2012). Social identity and the transition to entrepreneurship: The role of group identification with workplace peers. *Journal of Vocational Behavior*, 80(1), 137–147. doi:10.1016/j.jvb.2011.05.007
- *Obschonka, M., Schmitt-Rodermund, E., Silbereisen, R. K., Gosling, S. D., & Potter, J. (2013). The regional distribution and correlates of an entrepreneurship-prone personality profile in the United States, Germany, and the United Kingdom: a socioecological perspective. *Journal of Personality and Social Psychology*, 105(1), 104–22. doi:10.1037/a0032275
- *Obschonka, M., Silbereisen, R. K., Cantner, U., & Maximilian Goethner. (2014). Entrepreneurial Self-Identity: Predictors and Effects within the Theory of Planned Behavior Framework. *Journal of Business Psychology*, 30 (4), 1–22. doi:10.1007/s10869-014-9385-2
- *Obschonka, M., Silbereisen, R. K., & Schmitt-Rodermund, E. (2010). Entrepreneurial intention as developmental outcome. *Journal of Vocational Behavior*, 77(1), 63–72. doi:10.1016/j.jvb.2010.02.008
- *Obschonka, M., Silbereisen, R. K., Schmitt-Rodermund, E., & Stuetzer, M. (2011). Nascent entrepreneurship and the developing individual: Early entrepreneurial competence in adolescence and venture creation success during the career. *Journal of Vocational Behavior*, 79(1), 121–133. doi:10.1016/j.jvb.2010.12.005
- *Obschonka Martin, S. R. K. (2015). The Effects of Work-Related Demands Associated With Social and Economic Change on Psychological Well-Being. *Journal of Personnel Psychology*, 14(1), 10. doi:10.1027/1866-5888/a000128
- *Oh, H., & Kilduff, M. (2008). The ripple effect of personality on social structure: Self-monitoring origins of network brokerage. *Journal of Applied Psychology*, 93, 1155–1164. doi:10.1037/0021-9010.93.5.1155
- *Ozcelik, H., Langton, N., & Aldrich, H. (2008). Doing well and doing good: The relationship between leadership practices that facilitate a positive emotional climate and organizational performance. *Journal of Managerial Psychology*, 23, 186–203. doi:10.1108/02683940810850817
- *Parasuraman, S., & Simmers, C. A. (2001). Type of employment, work-family conflict and well-being: a comparative study. *Journal of Organizational Behavior*, 22(5), 551–568. doi:10.1002/job.102
- *Parslow, R. A., Jorm, A. F., Christensen, H., Rodgers, B., Strazdins, L., & D’Souza, R. M. (2004). The associations between work stress and mental health: A comparison of organizationally employed and self-employed workers. *Work and Stress*, 18, 231–244. doi:10.1080/14749730412331318649
- *Payne, S. C., & Webber, S. S. (2006). Effects of service provider attitudes and employment status on citizenship behaviors and customers’ attitudes and loyalty behavior. *Journal of Applied Psychology*, 91, 365–378. doi:10.1037/0021-9010.91.2.365
- *Peiro, J. M., Garcia-Montalvo, J., & Gracia, F. (2002). How do young people cope with job flexibility?: Demographic and psychological antecedents of the resistance to accept a job with non-preferred flexibility features. *Applied Psychology-an International Review*, 51, 43–66. doi:10.1111/1464-0597.0078z
- *Phillips, W., Lee, H., Ghobadian, A., O’Regan, N., & James, P. (2014). Social Innovation and Social Entrepreneurship: A Systematic Review. *Group & Organization Management*, 40(3), 428–461. doi:10.1177/1059601114560063
- *Pollack, J. M., Vanepps, E. M., & Hayes, A. F. (2012). The moderating role of social ties on entrepreneurs’ depressed affect and withdrawal intentions in response to economic stress. *Journal of Organizational Behavior*, 33(6), 789–810. doi:10.1002/job.1794

- *Powell, G. N., & Eddleston, K. A. (2008). The paradox of the contented female business owner. *Journal of Vocational Behavior*, *73*, 24–36. doi:10.1016/j.jvb.2007.12.005
- *Prottas, D. J., & Thompson, C. A. (2006). Stress, satisfaction, and the work-family interface: A comparison of self-employed business owners, independents, and organizational employees. *Journal of Occupational Health Psychology*, *11*, 366–378. doi:10.1037/1076-8998.11.4.366
- *Rauch, A., & 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), 353–385. doi:10.1080/13594320701595438
- *Reh fuss, M. C., & Di Fabio, A. (2012). Validating the Future Career Autobiography as a Measure of Narrative Change. *Journal of Career Assessment*, *20*(4), 452–462. doi:10.1177/1069072712450005
- *Reicher, S., Haslam, S. A., & Hopkins, N. (2005). Social identity and the dynamics of leadership: Leaders and followers as collaborative agents in the transformation of social reality. *Leadership Quarterly*, *16*, 547–568. doi:10.1016/j.leaqua.2005.06.007
- *Roche, M., Haar, J. M., & Luthans, F. (2014). The role of mindfulness and psychological capital on the well-being of leaders. *Journal of Occupational Health Psychology*, *19*(4), 476–489. doi:10.1037/a0037183
- *Roland-Lévy, C., & Kirchler, E. (2009). Special issue: Psychology in the economic world. *Applied Psychology-an International Review*, *58*(3), 363–369. doi:10.1111/j.1464-0597.2009.00395.x
- *Rollag, K. (2007). Defining the term “new” in new employee research. *Journal of Occupational and Organizational Psychology*, *80*, 63–75. doi:10.1348/096317906x120420
- *Rooks, G., Sserwanga, A., & Frese, M. (2014). Unpacking the Personal Initiative-Performance Relationship: A Multi-Group Analysis of Innovation by Ugandan Rural and Urban Entrepreneurs. *Applied Psychology: International Review*, *65*(1), 99–131. doi:10.1111/apps.12033
- *Rubino, C., Luksyte, A., Perry, S. J., & Volpone, S. D. (2009). How do stressors lead to burnout? The Mediating Role of Motivation. *Journal of Occupational Health Psychology*, *14*, 289–304. doi:10.1037/a0015284
- *Ruvio, A., Rosenblatt, Z., & Hertz-Lazarowitz, R. (2010). Entrepreneurial leadership vision in nonprofit vs. for-profit organizations. *Leadership Quarterly*, *21*, 144–158. doi:10.1016/j.leaqua.2009.10.011
- *Sadler-Smith, E. (2015). The role of intuition in entrepreneurship and business venturing decisions. *European Journal of Work and Organizational Psychology*, *0643*(December), 1–14. doi:10.1080/1359432X.2015.1029046
- *Schmitt-Rodermund, E. (2004). Pathways to successful entrepreneurship: Parenting, personality, early entrepreneurial competence, and interests. *Journal of Vocational Behavior*, *65*(3), 498–518. doi:10.1016/j.jvb.2003.10.007
- *Schonfeld, I. S., & Mazzola, J. J. (2015). A qualitative study of stress in individuals self-employed in solo businesses. *Journal of Occupational Health Psychology*, *20*(4), 501–513. doi:10.1037/a0038804
- *Schröder, E., & Schmitt-Rodermund, E. (2013). Antecedents and consequences of adolescents' motivations to join the family business. *Journal of Vocational Behavior*, *83*(3), 476–485. doi:10.1016/j.jvb.2013.07.006
- *Schroeder, E., & Schmitt-Rodermund, E. (2006). Crystallizing enterprising interests among adolescents through a career development program: The role of personality and family background. *Journal of Vocational Behavior*, *69*(3), 494–509. doi:10.1016/j.jvb.2006.05.004

- *Shane, S. (2009). Introduction to the focused issue on the biological basis of business. *Organizational Behavior and Human Decision Processes*, 110(2), 67–69. doi:10.1016/j.obhdp.2009.10.001
- *Shane, S., Nicolaou, N., Cherkas, L., & Spector, T. D. (2010). Genetics, the Big Five, and the tendency to be self-employed. *The Journal of Applied Psychology*, 95(6), 1154–62. doi:10.1037/a0020294
- *Shapiro, M., Ingols, C., & Blake-Beard, S. (2008). Confronting career double binds - Implications for women, organizations, and career practitioners. *Journal of Career Development*, 34, 309–333. doi:10.1177/0894845307311250
- *Sharma, P., De Massis, A., & Gagne, M. (2014). Family business: A fertile ground for research on time, teams and positive organizational study. *European Journal of Work and Organizational Psychology*, 23(5), 674–679. doi:10.1080/1359432X.2014.900046
- *Singh, G., Saghafi, M., Ehrlich, S., & De Noble, A. (2010). Perceptions of Self-Employment Among Mid-Career Executives in the People’s Republic of China. *Journal of Career Assessment*, 18(4), 393–408. doi:10.1177/1069072710374579
- *Sköld, D., & Rehn, A. (2007). Makin’ it, by keeping it real: street talk, rap music, and the forgotten entrepreneurship from "the “hood”." *Group & Organization Management*, 32(1), 50–78. doi:10.1177/1059601106294487
- *Sommer, S. M., & Welsh, D. H. B. (2000). The ethical orientation of Russian entrepreneurs. *Applied Psychology-an International Review*, 49, 688–708. doi:10.1111/1464-0597.00040
- *Srivastava, A., Locke, E. A., & Bartol, K. M. (2001). Money and subjective well-being: It’s not the money, it’s the motives. *Journal of Personality and Social Psychology*, 80, 959–971. doi:10.1037/0022-3514.80.6.959
- *Stephan, U., & Roesler, U. (2010). Health of entrepreneurs versus employees in a national representative sample. *Journal of Occupational and Organizational Psychology*, 83(3), 717–738. doi:10.1348/096317909X472067
- *Steward, W. H., & Roth, P. L. (2004). Data quality affects meta-analytic conclusions: A response to Miner and Raju (2004) concerning entrepreneurial risk propensity. *Journal of Applied Psychology*, 89, 14–21. doi:10.1037/0021-9010.89.1.14
- *Steward, W. H., & Roth, P. L. L. (2001). Risk propensity differences between entrepreneurs and managers: A meta-analytic review. *Journal of Applied Psychology*, 86, 145–153. doi:10.1037//0021-9010.86.1.145
- *St-Jean, É., & Mathieu, C. (2015). Developing Attitudes Toward an Entrepreneurial Career Through Mentoring: The Mediating Role of Entrepreneurial Self-Efficacy. *Journal of Career Development*, 42(4), 325–338. doi:10.1177/0894845314568190
- *Sullivan, D. M., & Meek, W. R. (2012). Gender and entrepreneurship: a review and process model. *Journal of Managerial Psychology*, 27, 428–458. doi:10.1108/02683941211235373
- *Svejenova, S., Mazza, C., & Planellas, M. (2007). Cooking up change in haute cuisine: Ferran Adria as an institutional entrepreneur. *Journal of Organizational Behavior*, 28, 539–561. doi:10.1002/job.461
- *Taris, T. W., Geurts, S. A. E., Schaufeli, W. B., Blonk, R. W. B., & Lagerveld, S. E. (2008). All day and all of the night: The relative contribution of two dimensions of workaholism to well-being in self-employed workers. *Work and Stress*, 22, 153–165. doi:10.1080/02678370701758074
- *Tetrick, L. E., Slack, K. J., Da Silva, N., & Sinclair, R. R. (2000). A comparison of the stress-strain process for business owners and nonowners: differences in job demands, emotional exhaustion, satisfaction, and social support. *Journal of Occupational Health Psychology*, 5, 464–476. doi:10.1037/1076-8998.5.4.464

- *Thebaud, S. (2010). Gender and Entrepreneurship as a Career Choice: Do Self-assessments of Ability Matter? *Social Psychology Quarterly*, 73(3), 288–304. doi:10.1177/0190272510377882
- *Tolentino, L. R., Sedoglavich, V., Lu, V. N., Garcia, P. R. J. M., & Restubog, S. L. D. (2014). The role of career adaptability in predicting entrepreneurial intentions: A moderated mediation model. *Journal of Vocational Behavior*, 85(3), 403–412. doi:10.1016/j.jvb.2014.09.002
- *Totterdell, P., Wood, S., & Wall, T. (2006). An intra-individual test of the demands-control model: A weekly diary study of psychological strain in portfolio workers. *Journal of Occupational and Organizational Psychology*, 79, 63–84. doi:10.1348/096317905x52616
- *Tullar, W. L. (2001). Russian entrepreneurial motive patterns: A validation of the Miner Sentence Completion Scale in Russia. *Applied Psychology-an International Review*, 50, 422–435. doi:10.1111/1464-0597.00065
- *Unger, J. M., Keith, N., Hilling, C., Gielnik, M. M., & Frese, M. (2009). Deliberate practice among South African small business owners: Relationships with education, cognitive ability, knowledge, and success. *Journal of Occupational and Organizational Psychology*, 82, 21–44. doi:10.1348/096317908x304361
- *Utsch, A., & Rauch, A. (2000). Innovativeness and initiative as mediators between achievement orientation and venture performance. *European Journal of Work and Organizational Psychology*, 9(1), 45–62. doi:10.1080/135943200398058
- *Uy, M. a., Chan, K.-Y., Sam, Y. L., Ho, M. R., & Chernyshenko, O. S. (2015). Proactivity, adaptability and boundaryless career attitudes: The mediating role of entrepreneurial alertness. *Journal of Vocational Behavior*, 86, 115–123. doi:10.1016/j.jvb.2014.11.005
- *Van den Born, A., & Van Witteloostuijn, A. (2013). Drivers of freelance career success. *Journal of Organizational Behavior*, 34, 24–46. doi:10.1002/job.1786
- *Waters, L., McCabe, M., Kiellerup, D., & Kiellerup, S. (2002). The role of formal mentoring on business success and self-esteem in participants of a new business start-up program. *Journal of Business and Psychology*, 17(1), 107–121. doi:10.1023/A:1016252301072
- *White, R. E., Thornhill, S., & Hampson, E. (2006). Entrepreneurs and evolutionary biology: The relationship between testosterone and new venture creation. *Organizational Behavior and Human Decision Processes*, 100, 21–34. doi:10.1016/j.obhdp.2005.11.001
- *White, R. E., Thornhill, S., & Hampson, E. (2007). A biosocial model of entrepreneurship: the combined effects of nurture and nature. *Journal of Organizational Behavior*, 28, 451–466. doi:10.1002/job.432
- *Wincent, J. (2008). An exchange approach on firm cooperative orientation and outcomes of strategic multilateral network participants. *Group & Organization Management*, 33(3), 303–329. doi:10.1177/1059601108318184
- *Wincent, J., & Ortqvist, D. (2009). A Comprehensive Model of Entrepreneur Role Stress Antecedents and Consequences. *Journal of Business and Psychology*, 24, 225–243. doi:10.1007/s10869-009-9102-8
- *Winter, D. G. (2010). Why achievement motivation predicts success in business but failure in politics: the importance of personal control. *Journal of Personality*, 78(6), 1637–67. doi:10.1111/j.1467-6494.2010.00665.x
- *Yamamoto, S. H., & Alverson, C. Y. (2014). Factors of Successful Self-Employment Through Vocational Rehabilitation for Individuals With Disabilities. *Journal of Career Assessment*, 23(2), 318–335. doi:10.1177/1069072714535176
- *Zhang, Z., Zyphur, M. J., Narayanan, J., Arvey, R. D., Chaturvedi, S., Avolio, B. J., ... Larsson, G. (2009). The genetic basis of entrepreneurship: Effects of gender and personality. *Organizational Behavior and Human Decision Processes*, 110(2), 93–107. doi:10.1016/j.obhdp.2009.07.002

*Zhao, H., & Seibert, S. E. (2006). The big five personality dimensions and entrepreneurial status: A meta-analytical review. *Journal of Applied Psychology, 91*, 259–271. doi:10.1037/0021-9010.91.2.259

*Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology, 90*, 1265–1272. doi:10.1037/0021-9010.90.6.1265