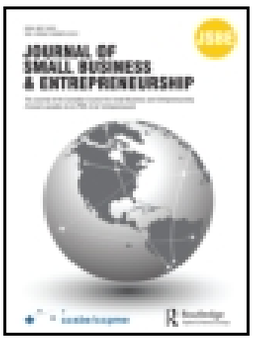

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Positive mindset and entrepreneurial outcomes: the magical contributions of psychological resources and autonomy

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This paper applies self-determination theory (SDT) and psychological capital literature to examine the impact of psychological capital and autonomy on a number of entrepreneurial outcomes including entrepreneurs' income, satisfaction, meaning in life, and commitment to the entrepreneurial career path. The results from two studies reported in this paper support the proposition that a positive mindset (consisting of psychological resources) and a feeling of autonomy are essential for entrepreneurial success. We also found that entrepreneurs' satisfaction mediates the effects of psychological capital, autonomy, as well as their interaction effects on commitment. In addition, the effects of psychological capital and autonomy on satisfaction were also moderated by level of income. The results have implications for entrepreneurship training and support interventions. The implications for research are also discussed.

Keywords: entrepreneurial outcomes; entrepreneurial success; psychological capital; psychological resources; self-determination theory

Cet article utilise la littérature sur la théorie de l'autodétermination et le capital psychologique pour examiner l'impact du capital psychologique et de l'autonomie sur un certain nombre de résultats entrepreneuriaux, parmi lesquels le revenu, la satisfaction, le sens de la vie et l'engagement dans le plan de carrière des entrepreneurs. Rapportés dans cet article, les résultats de deux études étayent l'hypothèse selon laquelle une façon de penser positive (fondée sur des ressources psychologiques) et un sentiment d'autonomie sont essentiels au succès entrepreneurial. Ces travaux révèlent également que la satisfaction des entrepreneurs modère les effets du capital psychologique et de l'autonomie, ainsi que leurs effets d'interaction sur l'engagement. De plus, les effets du capital psychologique et de l'autonomie sur la satisfaction sont eux aussi modérés par le niveau de revenu. Ces résultats ont des implications pour la formation et les interventions de soutien à l'entrepreneuriat. Sont également discutées, les implications pour la recherche.

Mots-clés: Résultats entrepreneuriaux; succès entrepreneurial; capital psychologique; ressources psychologiques; théorie de l'autodétermination

1. Introduction

It is not uncommon, in Uganda for example, for business owners to apply a sort of spiritual practices or fetishes to protect and bless their businesses. The logic of such actions is that businesses do not succeed and survive solely based on economic conditions, or

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personal factors of the entrepreneur, or on mere luck but rather on divine powers. Such practices may be common among people engaged in business in several places around the globe. However, the study by Gindling and Newhouse (2014) in 74 developing countries indicated that entrepreneurs who fail tend to share characteristics. Thus, success is not due to sheer magic. We argue that entrepreneurial success, instead, partly accrues from psychological resources or states that entrepreneurs invest in their work.

Using two studies, we argue that the magical powers of successful entrepreneurs lie in their positive psychological states (psychological capital) and self-determination (autonomy), what we are calling a positive mindset. We demonstrate in Study 1 that the interaction of psychological capital and autonomy results into higher satisfaction and wellbeing among young Ugandan self-employed. Over and above replicating these findings in a sample of German self-employed, Study 2 provides a more comprehensive picture of entrepreneurial outcomes by also investigating the impact of autonomy and psychological capital on entrepreneurs' income. Psychological capital has been highlighted as a positive force related to numerous work outcomes such as performance, satisfaction (e.g., Luthans et al. 2007), wellbeing among workers (e.g., Avey, Luthans, and Jensen 2009; Cole, Daly, and Mak 2009), and several work attitudes (e.g., Avey, Luthans, and Youssef 2010; Joo, Lin, and Kim 2016; Larson and Luthans 2006). Conversely, autonomy is presented in the Self-Determination Theory (SDT) as a psychological need; however, psychological needs are conceptualized as drivers of autonomous work motivation, volition and engagement, thus resulting in an enhanced performance and persistence (Deci and Ryan 2000; Ryan and Deci, 2000a).

Although these concepts are widely researched in relation to employee behavior and outcomes, they are yet to garner a similar level of attention in studying entrepreneurial outcomes. Research on entrepreneurial attitudes and culture has emphasized the value of autonomy or independence, particularly as a motivator of entrepreneurship intentions and entry. Another cluster of research has studied autonomy as an outcome of self-employment, positing that autonomy is among the greatest benefits of self-employment (e.g., Benz and Frey 2008), in line with SDT. It is argued that autonomy is the reason why the self-employed report higher satisfaction and wellbeing than their counterparts in wage-employment (Stam et al. 2016; Berglund, Sevä, and Strandh 2015), given that freedom at work is what employees seek (Otto, Rigotti, and Mohr 2013). Consistent with SDT, we claim that the autonomy experienced in self-employment is essential for entrepreneurial outcomes such as job satisfaction and persistence or commitment to entrepreneurial roles as well as the psychological wellbeing of entrepreneurs. We further argue that the achievement of autonomy is an important precondition for the realization of other entrepreneurial outcomes.

Concerning psychological capital, there is increasing focus on the role of psychological resources in the entrepreneurial process and for entrepreneurial success (e.g., Adomako et al. 2016; Baron, Franklin, and Hmieleski 2016; Dawson 2017). Besides facilitating entry and performance of entrepreneurial tasks, psychological capital has generally been linked to entrepreneurial success (Baluku, Kikooma, and Kibanja 2016) and lower stress among entrepreneurs (Baron, Franklin, and Hmieleski 2016). The latter study specifically clarifies that psychological capital is important for the psychological health of entrepreneurs.

Beyond these studies, there are reasons for positing that psychological capital relates to several specific subjective and objective outcomes of engaging in entrepreneurial activities. Psychological capital consists of four resources: self-efficacy or confidence, hope, resilience, and optimism (Luthans et al. 2007; F. Luthans, K. Luthans, and B. Luthans

2004; Page and Donohue 2004). In the theory of planned behavior, self-efficacy is a factor in perceived behavior control (Ajzen 2002, 1991), which is important in investment behavior. Similarly, optimism is an essential factor in investment decision making, and together with resilience and hope, are useful for coping with challenges involved in entrepreneurship (Baluku, Kikooma, and Kibanja 2016). These factors could foster performance and persistence or commitment to entrepreneurial activity. Moreover, when one has these resources, the individual is in a state of flow, indicating alignment between personal and work goals (F. Luthans, K. Luthans, and B. Luthans 2004); thus, this is a likely antecedent of satisfaction and psychological wellbeing.

In this paper, we particularly argue that both psychological capital and self-determination (i.e., autonomy) are related to entrepreneurial success; measured in terms of income (objective outcome), entrepreneurs' satisfaction and psychological wellbeing (subjective outcomes). Concerning wellbeing, we particularly focus on meaning in life, in accordance with eudaimonic measures. We posit that the realization of these outcomes results into commitment to entrepreneurship as a career path. We further suggest that the combination of both autonomy and psychological capital has a particularly high impact on each of these entrepreneurial outcomes.

2. Literature review and hypothesis development

Entrepreneurial success has long been examined in economic terms, focusing on the economic performance aspects such as profitability and growth (Rindova, Barry, and Ketchen 2009; Baron, Franklin, and Hmieleski 2016), illuminating the dominance of economic theorization in the study of success. However, following calls to study entrepreneurial success beyond economic parameters, there is increased research on subjective success, and thus increased focus on psychological processes and factors that are associated with entrepreneurial success. The idea is that particular psychological attributes and states are important resources for entrepreneurial entry and persistence (Patel and Thatcher 2014); these attributes can also be important for achieving success. This paper makes a contribution to this domain by highlighting the value of psychological strengths for entrepreneurial success.

Studies on positive thinking, behavior, and wellbeing of entrepreneurs are increasingly applying psychological capital conceptualizations to the study of entrepreneurship outcomes. In the present study, we argue that psychological capital impacts on several outcomes of entrepreneurship beyond wellbeing concepts. In addition, we argue that since autonomy (self-determination) is an important growth need in the workplace, and is primarily satisfied in entrepreneurial roles, both psychological capital and autonomy in entrepreneurship explain a large variance in subjective and objective outcomes. Both autonomy and psychological capital are described in extant literature as concepts concerned with psychological growth and thriving (Luthans et al. 2008; Ryan and Deci 2000a); hence, these are expected to have similar effects on entrepreneurial behavior and outcomes.

From SDT, the pursuit of psychological growth and flourishing underlies the autonomous motivation for individuals to devotedly engage and persist in behavior or activities (Ryan and Deci 2000a). Similarly, psychological capital constructs (efficacy, hope, resiliency, and optimism) have a common characteristic, which is the motivation to achieve goals (Luthans et al. 2007). The end outcomes of these motivational forces are superior performance, commitment, and wellbeing (which also includes notions of satisfaction in

the subjective measures). We examine the relations of psychological capital and autonomy to these objective and subjective outcomes in entrepreneurial work.

2.1. The cross-cultural context

We use samples of self-employed individuals from Uganda (Study 1) and Germany (Study 2) to test our assumptions. We therefore take into consideration the country differences, which may be based on the development context and on national cultures, respectively. There exist wide differences in entrepreneurial activities and success, as well as contribution of entrepreneurship to the economy, arising from cultural and economic contexts. Previous research has highlighted characteristics of entrepreneurial cultures as individualistic, masculine, and risk tolerant (Hayton and Cacciotti 2013; Krueger, Linan, and Nabi 2013; LeFebvre and Franke 2013). Concerning the economic context, it is believed that the benefits of self-employment tend to be higher in more developed than in less developed countries (Gindling and Newhouse 2014; Valliere and Peterson 2009).

From the assumptions of SDT, it appears that gratification of basic psychological needs is a universal aspiration that individuals seek to achieve through their work. Therefore, it is expected that there are smaller variances in their effect on other work outcomes. For example, it has been observed that variations in autonomy at work tend to relate to fluctuations in wellbeing (Reis et al. 2000). However, it has been argued that such hedonistic tendencies are more valued in individualistic western countries (Luthans and Youssef-Morgan 2017). Hence, autonomy might be less valued in Ugandan than in German work contexts, which may lead to differences in its effect on entrepreneurial outcomes. Regarding psychological capital, it has been suggested that environmental factors could influence the role of psychological resources in determining entrepreneurial success (Frese, Brantjes, and Hoorn 2002). Generally, the meta-analytic study of Avey et al. (2011) revealed that there are stronger effects of psychological capital on work outcomes in the United States than other countries. This is partly attributed to cross-cultural differences in meanings of positivity (Luthans and Youssef-Morgan 2017). Also, given the differences in the value of hedonic goals to individuals across cultures, Luthans and Youssef-Morgan (2017) propose that studies on psychological capital should pay attention to cultural differences to further the understanding of value of positivity across cultures. Considering this literature, it is expected that results of Study 1 may slightly differ from the results of Study 2.

2.2. The role of psychological capital in entrepreneurial success

Luthans and Youssef-Morgan (2017) refer to psychological capital as the 'HERO within,' a connotation for the four resources constituting psychological capital including: hope, efficacy, resiliency, and optimism. It also highlights what individuals are likely to achieve with, as opposed to what they likely not to achieve without these psychological resources. In business situations, psychological capital is likely to contribute to success more than other forms of input such as startup funds and human capital (Baluku, Kikooma, and Kibanja 2016). The value of these first-order, state-like, positive psychological resources on attitudes, behavior, performance, and wellbeing (Luthans and Youssef-Morgan 2017) makes psychological capital a robust resource not only for employees but also for individuals in entrepreneurial roles. The resources constituting psychological capital are conceptualized to be interactive and synergistic (Luthans and Youssef-Morgan 2017). Accordingly, psychological resources such as esteem, efficacy, and optimism tend to be

highly correlated and are observed together (Hobfoll 2011). Hence, we focus on psychological capital as a unified concept rather than its components.

Research in positive organizational psychology has indicated that psychological capital is related to numerous critical work outcomes including performance, job satisfaction, organizational commitment, engagement, and wellbeing (Avey et al. 2011; Baron, Franklin, and Hmieleski 2016; Joo, Lin, and Kim 2016; Luthans et al. 2007; Luthans and Youssef-Morgan 2017; Newman et al. 2014). Conversely, psychological capital is negatively related to undesirable workplace attitudes and behaviors as well as stress (Avey et al. 2011; Baron, Franklin, and Hmieleski 2016). Luthans et al. (2007) describe a mechanism through which positive psychological resources work together leading to higher performance, satisfaction, and wellbeing. Both optimism and self-efficacy enhance motivation for the task or goal, while efficacy, resilience, and hope enable individuals to rebound from adversity at work, as well as provide the confidence to persist in pursuance of goals.

Overall, and beyond performance and commitment, psychological capital as a unitary concept has also been studied in relation to other work-related outcomes including satisfaction and wellbeing. Generally, individuals with higher psychological capital tend to be more satisfied in their jobs than those with low psychological capital; this is facilitated by the motivational force in positive states and the ability to make the best of one's situation (Luthans et al. 2007). The high performance of individuals with higher psychological capital is also attributed to the idea that they possess higher psychological resources that they employ in a given situation (Hobfoll 2002). Therefore, these individuals not only rate their own performance highly but their high performance can also be verified in objective measures such as income (Avey, Nimnicht, and Pigeon 2010). This high performance may translate into satisfaction with the job, given that performance is a known predictor of job satisfaction (Judge et al. 2001). Concerning wellbeing, previous research shows that psychological resources are related to experiencing positive emotions, effective problem solving, and lowered deviant behavior in the workplace (Avey et al. 2008). This could explain why psychological capital is conceived to relate positively to employees' work-life satisfaction and lowered stress (Avey, Luthans, and Jensen 2009, 2011; Baron, Franklin, and Hmieleski 2016). Baron, Franklin, and Hmieleski (2016) explain that entrepreneurs' expectation of positive outcomes and their ability to plan alternative pathways to achieve goals and to overcome challenges buffer against experiencing stress. These characteristics may result in a high sense of wellbeing, which we measure in this study with the construct 'meaning in life' in accordance with the conceptualization of eudaimonic wellbeing (Ryff and Keyes 1995; Samman 2007). Meaning in life is regarded as experiencing a sense of purposefulness (Ryff and Singer 1998) and is linked to the enjoyment of work and the ability to overcome challenging circumstances (Samman 2007). From the foregoing review, we hypothesize the following:

Hypothesis 1: Psychological capital is positively related to entrepreneurial outcomes including (a) entrepreneurs' job satisfaction, (b) commitment to the entrepreneurial role, (c) meaning in life, and (d) income.

2.3. The role of autonomy in entrepreneurial success

SDT (Deci and Ryan 1980, 2015) proposes that behavior is motivated by either intrinsic motivation or extrinsic aspirations. However, the theory presents self or autonomous motivation, consisting of intrinsic and some forms of extrinsic motivation, as more critical for sustaining behavior (Deci and Ryan 2008a; Deci and Ryan 2008b; Gagné and

Deci 2005). This is because intrinsic motivation is related to inherent interest and enjoyment derived from engaging in an activity (Ryan and Deci 2000a; Ryan and Deci 2000b), which fosters psychological growth (Deci and Ryan 2000), hence important for psychological wellbeing. The motivation for engaging in activities that individuals find interesting or enjoyable is facilitated by the desire to satisfy the three basic psychological needs: autonomy, competence, and relatedness (Deci and Ryan 2000; Ryan and Deci 2000a). It is these needs that people seek to satisfy by engaging in their chosen careers; therefore are central to motivation to perform and persist in a given activity (García Calvo et al. 2010; Welters, Mitchell, and Muysken 2014).

The desire to satisfy psychological needs not only influences goals but their gratification is also related to optimum functioning (Deci and Ryan 2008c). This may translate into increased performance and persistence. Moreover, particularly gratification of the need for autonomy is an important outcome of work that enables individuals to maintain a strong level of psychological health and functioning (Otto, Rigotti, and Mohr 2013). Autonomy is conceptualized as self-organization and self-regulation in pursuit of goals (Deci and Ryan 2000), and this freedom in pursuit of goals (self-endorsed goals) has a great impact on wellbeing (Ryan and Deci 2001). The longing for autonomy has been linked to changing work roles and arrangements, particularly the increased preference for entrepreneurial work (Croson and Minniti 2012; Hundley 2001; Kolvereid 1996; van Gelderen 2010). Therefore, the achievement of autonomy should translate into enhanced motivation, performance, satisfaction, and commitment to the entrepreneurial career path, as well as contribute to a general feeling of meaning in life.

SDT studies have particularly focused on the link between psychological needs, satisfaction, and wellbeing. Regarding autonomy, SDT assumes that wellbeing and the experience of a satisfying, meaningful, and purposeful life are intimately linked to autonomy in motivation, actions, and pursuit of goals (Chirkov, Ryan, and Sheldon 2010). That is, matters of a good life and happiness are inseparable from the autonomy of individuals; hence, SDT posits that autonomy is the psychological need most closely associated with eudaimonic wellbeing (Deci and Ryan 2008b). Therefore, variations in autonomy (and other psychological needs) when engaging in activities tend to relate to fluctuations in reported wellbeing (Reis et al. 2000). This could also affect effort that individuals put into a given activity, as well as level of persistence, consequently causing variations in outcomes. Extant research has indicated that individuals are attracted to and persist in entrepreneurial activities because of the need for autonomy at work (van Gelderen and Jansen 2006; Jubari, Hassan, and Hashim 2017; Patel and Thatcher 2014). It has also been claimed that although the self-employed earn relatively low income and sometimes have more precarious work than their counterparts in salaried-employment, they tend to be happier because of autonomy (Binder and Coad 2013; Berglund, Sevä, and Strandh 2015). Therefore, we hypothesize that autonomy is correlated to numerous work outcomes in the area of entrepreneurship:

Hypothesis 2: Autonomy is positively related to entrepreneurial outcomes including (a) entrepreneurs' job satisfaction, (b) commitment to the entrepreneurial role, (c) meaning in life, and (d) income.

2.4. Conditional and recursive effects

Whereas we hypothesize psychological capital and autonomy to independently relate to different entrepreneurial outcomes, there is a possibility that the interaction of these two

constructs could count for higher variance in entrepreneurial outcomes. Both psychological capital (F. Luthans, K. Luthans, and B. Luthans 2004, 2008) and autonomy (Ryan and Deci 2000a) are argued to espouse volition and flourishing aspects, suggesting their interdependence. For example, there is literature proposing that implementing one's efficacy beliefs is facilitated by autonomy (Devine, Camfield, and Gough 2008). Therefore, we propose that the effects of psychological capital on entrepreneurial outcomes are likely to be higher for entrepreneurs who report higher levels of autonomy. An individual may have high confidence and expect suitable results or have alternative plans to achieve goals; however, their implementation may depend on whether the person feels he or she has self-determination to invest, pursue business goals, or to implement one's developed strategies.

Hypothesis 3: Entrepreneurial outcomes including (a) entrepreneurs' job satisfaction, (b) commitment to the entrepreneurial role, (c) meaning in life, and (d) income are higher for individuals who report higher levels of both psychological capital and autonomy.

We further posit that the relationship of psychological capital and autonomy with particularly subjective entrepreneurial outcomes is recursive such that psychological capital, autonomy, and their interaction enhances entrepreneur's satisfaction, which in turn strengthens the individual's commitment to entrepreneurship as a career. Studies that examine persistence in a given career have highlighted the impact of satisfaction. For example, satisfaction with the college environment and satisfaction with field of study have been found to result into increased persistence in study or commitment to continue studying at the college (Roberts and Styron 2010; Suhre, Jansen, and Harskamp 2007; Schreiner and Nelson 2014). In work contexts, it is also posited that work commitment is a result and an antecedent of job satisfaction (Sulsky 1999). In the entrepreneurial career, it has been suggested that entrepreneurs, particularly those in solo self-employment are less likely to switch to salaried-employment, particularly due to the satisfaction with freedom in the workplace (Conen, Schippers, and Schulze Buschoff 2016). This suggests that entrepreneurs' satisfaction is a likely mechanism through which persistence in entrepreneurial roles is enhanced. We therefore hypothesize that:

Hypothesis 4: The effects of (a) psychological capital, (b) autonomy, and (c) their interaction on commitment to entrepreneurial role are mediated by entrepreneurs' satisfaction.

The study of entrepreneurship has recently emphasized the importance of non-financial outcomes (e.g., Baron, Franklin, and Hmieleski 2016), which is in line with the thinking that today's are motivated by non-economic outcomes (Hall 1996). However, the economic outcomes are still a very important indicator of performance and antecedent of survival of the business; therefore, important for the satisfaction and wellbeing of the entrepreneur. A large study of startups in Germany revealed that satisfaction of business owners was largely determined by financial success of the startup and independence (Block and Koellinger 2009). We therefore hypothesize that income of the entrepreneur is likely to contribute to the level of satisfaction and wellbeing (meaning in life). We particularly posit that the level of income could influence the association of psychological capital and autonomy with subjective outcomes (satisfaction and meaning in life).

Hypothesis 5: The effects of (a) psychological capital, (b) autonomy, and (c) their interaction on entrepreneurs' satisfaction are dependent on level of income such that the effects are higher when the level of income is high.

Hypothesis 6: The effects of (a) psychological capital, (b) autonomy, and (c) their interaction on entrepreneurs' meaning in life are dependent on level of income such that the effects are higher when the level of income is high.

3. Methods

3.1. Overview of the studies

To investigate our hypotheses, we conducted two surveys using samples of self-employed individuals in Germany and Uganda. The different studies enable us to examine the impact of psychological capital and autonomy on different entrepreneurial outcomes in dissimilar settings. Study 1 was conducted in Uganda among young self-employed individuals who had recently graduated from high school, college, or university. It particularly assessed the impact of psychological capital and autonomy on entrepreneurial outcomes (entrepreneurs' satisfaction and commitment to the entrepreneurial career role). Conversely, Study 2 was conducted among self-employed individuals varying in their professional age in Germany; and further differs from Study 1 by including the objective outcome of income. It also broadens the subjective success outcomes by including meaning in life; which is a dimension of psychological wellbeing (Samman 2007; Ryff and Keyes 1995).

3.2. Sample and procedure

Study 1 participants were 163 young persons in Uganda who are engaged in self-employment. These included individuals who recently graduated from high school, technical colleges, or university, and are engaged in self-employment as their only or main employment activity. Participants were recruited through youths' business forums in the capital city (Kampala), which is also the country's business hub. Survey questionnaires were administered through the paper and pencil method. Participants were aged 18 to 30 years ($M = 24.56$, SD $= 2.83$). The majority were male (55.8%) and had obtained university degree (53.2%).

Study 2 participants included a convenient sample of German self-employed individuals who were invited to participate in an online survey. Calls for participation were posted on several online forums for the self-employed and freelancers in Germany. In a period of four months, a total of 90 individuals had responded; however, six participants were eliminated from the analysis because they did not qualify to be called self-employed or entrepreneurs. Participants were aged 18 to 79 years ($M = 38.06$, SD $= 12.10$) and the majority was male (53.1%). Given the wide age range, the period participants had spent in self-employment also varied widely from 1 to 55 years ($M = 6.65$, SD $= 9.38$). In addition, income varied from below 1000.00 EUR to 10,000.00 EUR ($M = 22{,}297.62$ EUR).

3.3. Measures

Cronbach's alpha coefficients, means, standard deviations, and correlations of the measures used are presented in Tables 1 and 2 for Study 1 and Study 2, respectively.

In Study 1, we measured *psychological capital* using the Psychological Capital Questionnaire (PCQ) (Luthans, Avolio, and Avey 2007) – PCQ12 version. Participants indicated their degree of agreement with 12 statements (e.g., 'I can think of many ways to reach my current work goals.'). The PCQ12 is a short version of the original PCQ24

Table 1. Descriptive statistics and inter-correlations of study variables (Study 1).

Variables	*M*	SD	1	2	3	4
1. Autonomy	2.79	0.75	**0.82**			
2. Psychological capital	4.35	0.65	0.23**	**0.87**		
3. Satisfaction	3.83	0.50	0.37***	0.53***	**0.80**	
4. Commitment	3.06	1.04	0.54***	0.38***	0.53***	**0.89**

***$p < 0.001$. **$p < 0.01$. *$p < 0.05$.
Note: Reliabilities are indicated in diagonal and bold.

(Luthans, Avolio, and Avey 2007), which was rated on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). In Study 2, the PCQ24 was used.

To measure *autonomy*, we adopted the shot measure from the eDeci and Ryan Basic Psychological Needs scale (see: Samman 2007, 464–465). This questionnaire consists of three items measured on a 4-point scale from 1 (not at all true) to 4 (completely true). A sample item is 'I feel like I can pretty much be myself in daily situations.' This instrument was used in both Study 1 and Study 2.

Job satisfaction was measured using six items from the revised sub-scales of the short form of Minnesota satisfaction questionnaire (Hirschfeld 2000). It should be noted that only items identified as intrinsic were included in our questionnaire. However, two items ('the chance to do things for other people' and 'the chance for advancement in this job') were eliminated. The first was eliminated because of low loading, while the second was eliminated because it was deemed not applicable to the context of the self-employed. The items were measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A sample item reads 'the chance to do different things from time to time.' The instrument was used in both Study 1 and Study 2.

In Study 1, we further examined the effects of psychological capital and autonomy as well as the recursive effects of satisfaction on *commitment* to entrepreneurial career roles. To measure this commitment, we adopted four items from the career commitment scale (Blau 1985, 1988) that we deemed fitting to the context of the self-employed. The scale measures one's commitment to his/ her career field or occupation. In the present study, we measured the commitment of the self-employed to continue in their self-employment/ entrepreneurial roles. A sample item reads 'self-employment is the ideal vocation for a life work.' Items were measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 2. Descriptive statistics and inter-correlations of study variables (Study 2).

	M	SD	1	2	3	4	5
1. Psychological capital	4.76	0.78	**0.91**				
2. Autonomy	3.32	0.55	0.54***	**0.77**			
3. Income	2297.62	1887.22	0.26*	0.19	–		
4. Meaning in life	3.41	0.73	0.61***	0.65***	.15	**0.88**	
5. Satisfaction	4.01	0.85	0.71***	0.60***	.21	.65***	**0.84**

***$p < 0.01$. **$p < 0.01$. *$p < 0.05$ level.
Note: Reliabilities are indicated in diagonal and bold.

Study 2 further examined the effects of psychological capital and autonomy on more entrepreneurial outcomes including meaning in life (as an aspect of wellbeing) and income (as an objective success parameter). To measure *meaning in life*, we adopted the short form of Steger's meaning in life questionnaire (see: Samman 2007, 464–465). The questionnaire consists of three items measured on a 4-point scale from 1 (not at all true) to 4 (completely true). A sample item is 'I have discovered a satisfying life purpose.' *Income* was measured by asking participants to indicate how much they earned from their businesses on average per month in the range of below 1000 EUR, 1000 to 1999 EUR, 2000 to 2999 EUR, 3000 to 3999 EUR, 4000 to 4999 EUR, 5000 to 5999 EUR, 6000 to 10,000 EUR, and above 10,000 EUR. However, no participant reported earnings in excesses of 10,000 EUR. It should be noted that these refer to income earned in the form of salary from the business and not the total income of the business.

4. Results

4.1. Study 1 results

To examine the effect of psychological capital, autonomy, and their interactive effects on entrepreneurial outcomes (entrepreneurs' satisfaction and commitment to the entrepreneurial role), we applied moderated mediation regression analysis in PROCESS macro 2.16.3 (Model 8) (Hayes 2013); with sample bootstrapping at 5000 as described by Hayes (2013). We controlled for effects of age, sex, and educational level. The results in Table 3 revealed that psychological capital was positively related to entrepreneurs' satisfaction ($B = 0.44$, $p < 0.001$) and commitment to the entrepreneurial role ($B = 0.33$, $p = 0.005$). These results provide support for hypotheses 1a and 1b. The results also reveal that autonomy was positively related to entrepreneurs' satisfaction ($B = 0.16$, $p < 0.001$) and commitment ($B = 0.79$, $p < 0.001$). These results confirm hypotheses 2a and 2b.

Our results further confirm hypotheses 3a and 3b by showing significant interaction effects of psychological capital and autonomy on satisfaction ($B = 0.18$, $p = 0.015$) and commitment ($B = 0.34$, $p < 0.001$). The conditional direct effects of psychological capital on entrepreneurial outcomes at the levels of autonomy in Table 3, as well as the plots in Figure 1, show that commitment to the entrepreneurial role was highest for entrepreneurs with high levels of both psychological capital and autonomy. Similarly, regression plots in Figure 2 also show that entrepreneurs' satisfaction was highest at high levels of both psychological capital and autonomy.

We hypothesized an indirect relationship such that the effects of psychological capital and its interaction with autonomy, on commitment to entrepreneurial roles, are mediated by satisfaction. Our results in Table 3 further indicate that satisfaction is related to commitment ($B = 0.44$, $p = 0.002$). The significant index of moderated mediation ($B = 0.08$, Boot CIs = 0.02, 0.19) indicates that psychological capital has an indirect positive effect on commitment to the entrepreneurial role (via entrepreneurs' job satisfaction), contingent on the level of autonomy. The pattern of conditional indirect effects reveals that the indirect effects are lowest at low levels of autonomy ($B = 0.13$, Boot CIs = 0.05, 0.27) and highest at high levels of autonomy (B = 0.25, Boot CIs = 0.11, 0.45). These results provide support for hypotheses 4a, 4b, and 4c.

4.2. Study 2 results

This study examined the effects of psychological capital on objective (income) and subjective (satisfaction and commitment) outcomes of entrepreneurship. We proposed that

Table 3. Moderated regression analysis for the effect of psychological capital and autonomy on entrepreneurial outcomes (Study 1).

	Satisfaction				Commitment			
Predictors	*B*	*SE*	*t*	*p*	*B*	*SE*	*t*	*p*
Sex	−0.02	0.06	−0.32	0.752	0.13	0.10	1.33	0.185
Age	0.03	0.06	0.54	0.591	0.06	0.10	0.64	0.521
Education	−0.14	0.08	−1.66	0.099	0.02	0.11	0.14	0.889
Psychological capital (PsyCap)	0.44	0.08	5.89	<0.001	0.33	0.11	2.89	0.005
Autonomy	0.16	0.04	3.65	<0.001	79	0.08	10.57	<0.001
Satisfaction					0.44	0.14	3.22	0.002
PsyCap × Autonomy	0.18	.08	2.47	0.015	0.34	0.10	3.55	<0.001
Model summary	$R^2 = 0.41, F(13, 156) = 13.40, p < 0.001$				$R^2 = 0.66, F(7, 155) = 47.61, p < 0.001$			
Conditional direct effects of psychological capital on commitment at the levels of autonomy								
							Bootstrap 95% CI	
					Effect	*SE*	Lower	Upper
Low autonomy					0.07	0.07	−0.06	0.21
Average autonomy					0.33	0.11	0.10	0.55
High autonomy					0.58	0.18	0.23	0.93
Conditional indirect effects of psychological capital on commitment via satisfaction at the levels of autonomy								
Low autonomy					0.13	0.06	0.05	0.27
Average autonomy					0.19	0.07	0.08	0.34
High autonomy					0.25	0.09	0.11	0.45
Index of moderated mediation					0.08	0.04	0.02	0.19

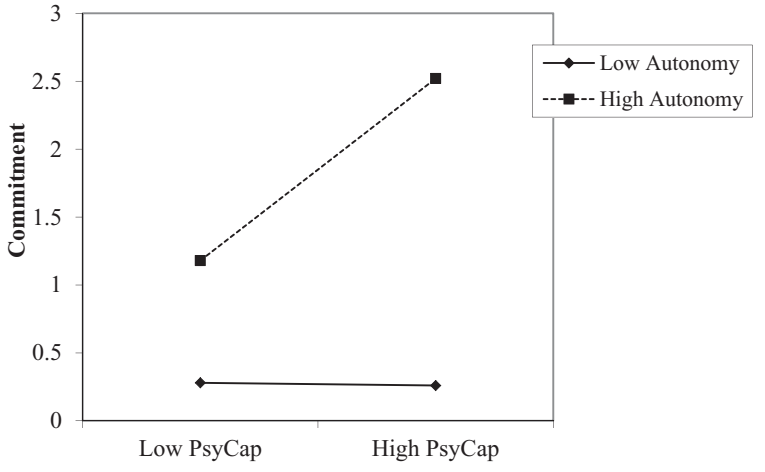

Figure 1. Interactive effects of psychological capital and autonomy on commitment (Study 1).

the effects of psychological capital are dependent on the level of autonomy of the entrepreneur. We first examined the effects on income. Consequently, we proposed that the effects of psychological capital and autonomy on subjective outcomes might further be conditioned by the level of income of the entrepreneur. We therefore applied moderation analysis using PROCESS macro 2.16.3, Model 1 to establish the effects on income (Hayes 2013). To establish the effects of entrepreneurs' satisfaction and meaning in life, we applied PROCESS macro 2.16.3, Model 3 (Hayes 2013). In our analysis, we included sex, age, level of education, and length of time participants had spent in self-employment as control variables. Like in Study 1, we also applied sample bootstrapping at 5000. The results confirmed the findings of Study 1 regarding entrepreneurs' satisfaction. Results in Table 4 show that psychological capital was positively related to both subjective outcomes; entrepreneurs' satisfaction ($B = 0.54$, $p < 0.001$) and meaning in life ($B = 0.38$, $p < 0.001$), thus providing further support for hypothesis 1a, and also for hypothesis 1c.

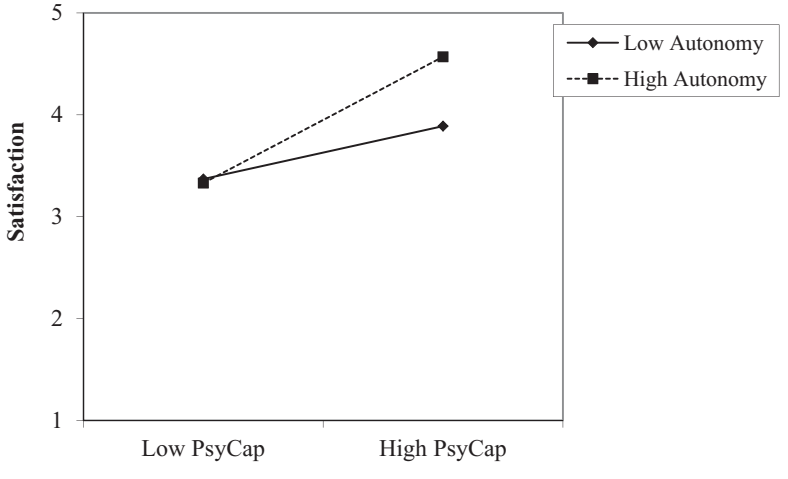

Figure 2. Interactive effects of psychological capital and autonomy on satisfaction (Study 1).

Table 4. Interactive effects of psychological capital and autonomy on subjective outcomes via objective outcomes (Study 2).

	Objective outcome				Subjective outcomes							
	Income				Satisfaction				Meaning in life			
Predictors	*B*	*SE*	*t*	*p*	*B*	*SE*	*t*	*p*	*B*	*SE*	*t*	*p*
Sex	1.06	0.33	3.25	0.002	−0.27	0.13	−1.98	0.051	0.14	0.13	1.06	0.292
Age	−0.03	0.02	−1.64	0.106	−0.003	0.01	−0.27	0.787	−0.00	0.01	−0.21	0.834
Time spent in self-employment	0.03	0.03	0.93	0.357	0.002	0.01	0.22	0.826	0.01	0.01	1.10	0.276
Level of education	−0.13	0.11	−1.19	0.239	0.04	0.04	1.01	0.318	0.04	0.05	0. 57	0.454
Psychological capital (PsyCap)	0.40	0.25	1.60	0.114	0.54	0.11	4.76	<0.001	0.38	0.11	3.55	<0.001
Autonomy	0.77	0.40	1.94	0.056	0.42	0.14	2.97	0.004	0.55	0.26	2.14	0.036
Income					0.08	0.04	1.90	0.062	−0.01	0.05	−0.12	0.907
PsyCap × Autonomy	0.89	0.34	2.63	0.010	−0.43	0.21	−2.11	0.038	−0.24	0.24	−0.99	0.327
PsyCap × Income					−0.12	0.06	−2.05	0.044	−0.09	0.08	−1.13	0.262
Autonomy × Income					0.23	0.09	2.51	0.014	0.02	0.16	0.12	0.902
PsyCap × Autonomy × income					−0.02	0.13	−0.15	0.879	−0.04	0.16	−0.25	0.804
Model summary	$R^2 = 0.25, F(7, 76) = 5.50, p < 0.001$				$R^2 = 0.66, F(11, 72) = 12.19, p < 0.001$				$R^2 = 0.60, F(11, 72) = 7.71, p < 0.001$			
ΔR^2 due to interaction(s)	$\Delta R^2 = 0.06, F(1, 76) = 6.90, p = 0.010^{\ddagger}$				$\Delta R^2 = 0.0002, F(1, 72) = 0.02, p = 0.879\dagger$				$\Delta R^2 = 0.0012, F(1, 72) = 0.06, p = 0.804\dagger$			

Conditional effects of psychological capital at levels of autonomy						Conditional effects of psychological effects at levels of autonomy and income							
			Bootstrap 95% CI					Bootstrap 95% CI				Bootstrap 95% CI	
	Effect	*SE*	Lower	Upper		Effect	*SE*	Lower	Upper	Effect	*SE*	Lower	Upper
Low autonomy	−0.09	0.33	−0.74	0.56	*LI*	0.95	0.24	0.47	1.44	0.63	0.22	0.19	1.07

(*continued*)

Table 4. (*Continued*)

	Objective outcome					Subjective outcomes							
	Income					Satisfaction				Meaning in life			
Predictors	*B*	*SE*	*t*	*p*		*B*	*SE*	*t*	*p*	*B*	*SE*	*t*	*p*
Average autonomy	0.40	0.25	−0.10	0.90	*LI*	0.73	0.16	0.42	1.04	0.53	0.17	0.19	0.88
High autonomy	0.89	0.30	0.30	1.49	*LI*	0.51	0.26	−0.01	1.02	0.44	0.24	−0.04	0.92
Low autonomy					*AI*	0.78	0.17	0.44	1.12	0.51	0.15	0.21	0.81
Average autonomy					*AI*	0.54	0.11	0.31	0.77	0.38	0.11	0.17	0.59
High autonomy					*AI*	0.30	0.15	−0.00	0.60	0.25	0.19	−0.13	0.62
Low autonomy					*HI*	0.61	0.21	0.20	1.02	0.39	0.23	−0.09	0.84
Average autonomy					*HI*	0.35	0.14	0.08	0.62	0.22	0.17	−0.12	0.60
High autonomy					*HI*	0.09	0.16	−0.23	0.41	0.06	0.34	−0.62	0.73
Conditional effects of psychological capital × autonomy at the levels of income													
Low income (*LI*)						−0.40	0.36	−1.11	0.31	−0.18	0.28	−0.73	0.38
Average income (*AI*)						−0.44	0.21	−0.85	−0.02	−0.24	0.24	−0.72	0.24
High income (*HI*)						−0.47	0.23	−0.92	−0.01	−0.30	0.41	−1.12	0.52

[†]change in R^2 due to three-way interactions
[‡]change in R^2 due to two-way interactions
Note: *LI* – Low income level; *AI* – Average income level; *HI* – High income level; PsyCap – Psychological capital.

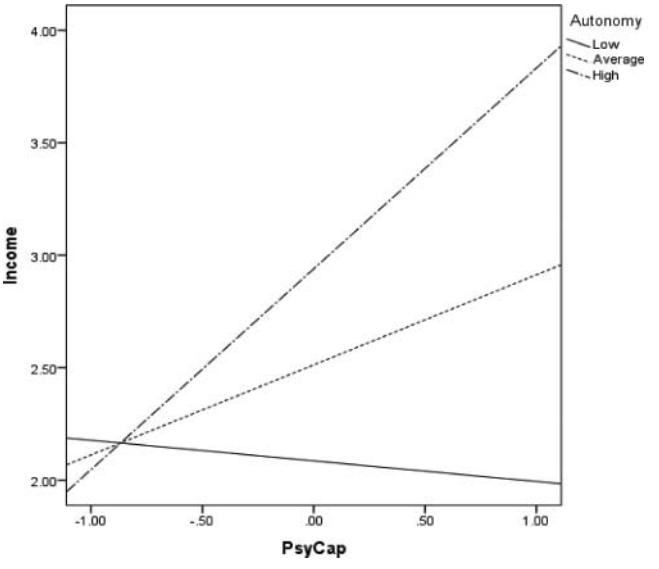

Figure 3. Interactive effects of psychological capital and autonomy on income (Study 2).

However, the association between psychological capital and the objective outcome (income) was not significant ($B = 0.40$, $p = 0.114$); therefore, hypothesis 1d is not supported. Similar to the effects of psychological capital, autonomy was significantly and positively related to the subjective measures; entrepreneurs' satisfaction ($B = 0.42$, $p = 0.004$) and meaning in life ($B = 0.55$, $p = 0.036$), supporting hypotheses 2a and 2c. The effects of autonomy on income were, although relatively high, statistically only marginal significant ($B = 0.77$, $p = 0.056$); hence, hypothesis 2d is not supported.

Concerning the moderations, our assumption that the effects of psychological capital on entrepreneurial outcomes are dependent on level of autonomy was supported for income ($B = 0.89$, $p = 0.010$) and entrepreneurs' satisfaction ($B = -0.43$, $p = 0.038$) but not for meaning in life. These findings support hypotheses 3a and 3d; however, hypothesis 3c is not supported. As shown in Figure 3, entrepreneurs with higher psychological capital and autonomy reported earning more than their counterparts with lower levels psychological capital and autonomy. On the other hand, conditional effects in Table 4 reveal that effects of psychological capital on entrepreneurs' satisfaction tend to be high when the level of autonomy is low. The plot of three-way interactions (Figure 4) further illustrates that this is particularly true for entrepreneurs with low levels of income. In this direction, we hypothesized that the effects of psychological capital and autonomy on subjective outcomes are further dependent on the level of income. The results reveal that the interaction of psychological capital and income has significant effects on entrepreneurs' satisfaction ($B = -0.12$, $p = 0.044$), confirming hypothesis 5a. Similarly, the interaction of autonomy and income had significant effects on entrepreneurs' satisfaction ($B = .23$, $p = 0.014$), confirming hypothesis 5b. Effects on meaning in life were not statistically significant, thus hypotheses 6a and 6b are not confirmed. We also found non-significant effects for the three-way interactions (of psychological capital, autonomy, and income) on both subjective outcomes; hence, hypothesis 5c and 6c are also not supported. Figure 4 indicates that psychological capital has the highest impact on entrepreneurs' satisfaction when levels of income and levels of autonomy are both low. Contrary,

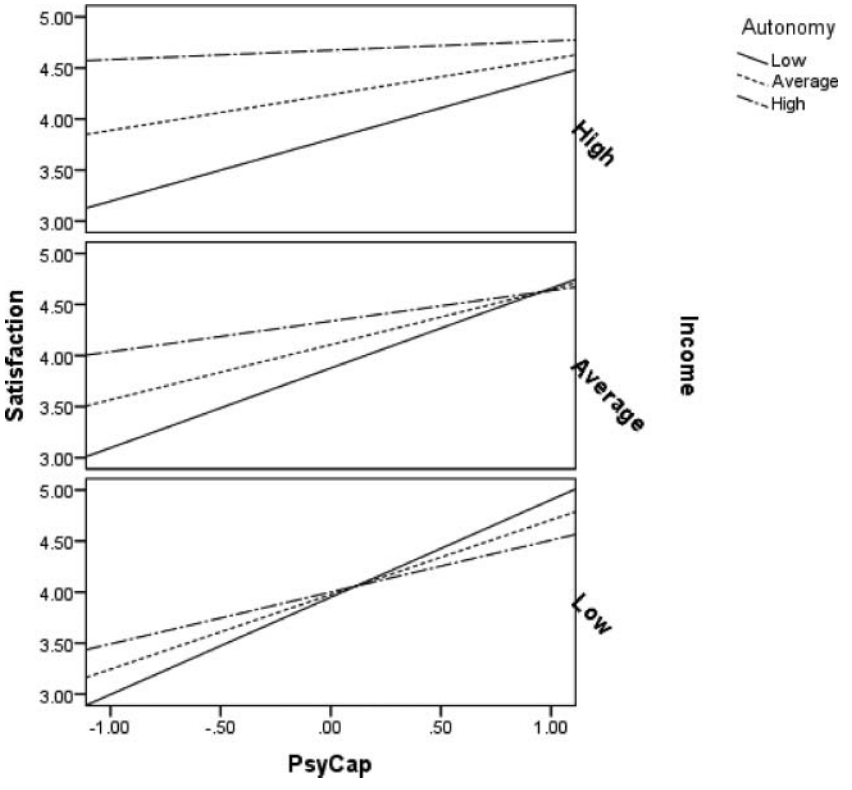

Figure 4. Three-way interactive effects of psychological capital, autonomy, and income on satisfaction (Study 2).

psychological effects contributed least to entrepreneurs' satisfaction when levels of autonomy and income are high.

5. Discussion

Entrepreneurship and self-employment in the current economic context play important roles for economies and individuals. The role of entrepreneurship in economic development is widely documented and is also increasingly becoming a common form of employment, particularly in developing countries (Gindling and Newhouse 2014; Falco and Haywood 2016). However, self-employment or entrepreneurial roles differ from traditional wage-employment and offer unique challenges; thus, it is important to pay attention to both objective and subjective outcomes. The present studies examined a range of entrepreneurial outcomes including performance, income, satisfaction, meaning in life, and commitment to entrepreneurial career roles and how they relate to psychological capital and autonomy. We argue that a positive mindset consisting of psychological capital and autonomy (representing positive psychological resources and a feeling of freedom, respectively) constitutes the magic that enables entrepreneurs to achieve magical results. We propose that entrepreneurs who are successful do not achieve success through sheer magic or luck; instead, they do so through a strong positive mindset that employs one's psychological resources to the fullest. Additionally, when an individual feels that there is

an optimum level of independence at work, there will be greater outcomes, both objective and subjective.

An important work outcome that we investigated in the two studies is entrepreneurs' satisfaction with their job. Job satisfaction is regarded as an important job attitude because of its relations to other work attitudes and outcomes including commitment, performance, and wellbeing at work (Mau, Ellsworth, and Hawley 2008; Street 2005; C. McGuigan, K. McGuigan, and Mallett 2015). In both studies, psychological capital and autonomy were positively related to entrepreneurs' job satisfaction. This finding is consistent with the literature on the impact of psychological capital on wellbeing of workers. It has been argued that higher psychological capital implies having more psychological resources (Hobfoll 2002) to utilize in performing various entrepreneurial tasks and addressing challenges in entrepreneurship. These are not only important for performance but also result in experiencing positive emotions (Avey, Luthans, and Jensen 2009; Baron, Franklin, and Hmieleski 2016) in the workplace and hence, higher satisfaction.

The results of Study 1 reveal that autonomy is not only related to entrepreneurs' job satisfaction but it also moderates the effect of psychological capital on entrepreneurs' job satisfaction. Extant literature posits that certain individuals are attracted to entrepreneurship because of the work independence it offers (van Gelderen 2010; Kolvereid 1996). Therefore, satisfying this need contributes significantly to entrepreneurs' job satisfaction. SDT shows that autonomy is important for motivation of workplace behavior. Hence, the level of autonomy individuals experience in executing their entrepreneurial activities is essential. Our findings indicate that it also influences the way psychological capital relates to satisfaction.

Although this may vary according to cultural contexts, for the German sample, psychological capital had higher impact on satisfaction when level of autonomy was low. On the other hand, satisfaction for the Ugandan sample tends to be high when both psychological capital and level of autonomy are high. Findings from previous studies confirm that autonomy is an important motivator and outcome of entrepreneurship; thus, an important antecedent of satisfaction (Schneck 2014; Zhang and Schøtt 2017; Binder and Coad 2013). In a cultural context where autonomy is valued, it should account for a great variance in the positive evaluation entrepreneurs have about their work. When autonomy is not achieved, our results imply that psychological capital tends to fill the vacuum, suggesting that the positive psychological resources enable entrepreneurs to maintain a positive feeling about their work. In a collectivistic context such as Uganda, with high levels of interdependence, independence in managing one's own business is essential in decision making and implementation, thus facilitating the applications of one's psychological resources to the running of the business.

Concerning entrepreneurs' wellbeing, we assessed entrepreneurs' experience of meaning in life in Study 2. Our findings revealed that this aspect of wellbeing is affected by both entrepreneurs' psychological capital and autonomy. Literature relating to both predictors emphasize flourishing, indicating that when individuals have high levels of psychological capital and autonomy, they are likely to experience purposefulness, meaning, happiness, and other related positive emotions. Specifically, psychological capital has been found to enhance the quality of work of entrepreneurs and buffers against stress involved in entrepreneurial work, which in turn improves their wellbeing (Baron, Franklin, and Hmieleski 2016). Regarding autonomy, SDT proposes that satisfaction of psychological needs is important for a eudaimonic living (Ryan and Deci 2001), hence experiencing happiness and meaningfulness. Therefore, autonomy is not only a goal that entrepreneurs seek to achieve at work but also a precedence for finding satisfaction and

meaningfulness in work and life in general. The opportunity and ability to plan and make important decisions about one's business, being one's own boss, contributing to society and economy through taxes and employing others are some of the things that are likely to provide a sense of fulfillment for entrepreneurs; consequently, they experience feelings of meaningfulness in life.

Much of our discussion has thus far focused on subjective outcomes of entrepreneurship. The results of Study 2 suggest that psychological capital and autonomy also contribute to the achievement of objective entrepreneurial outcomes. Both psychological capital and autonomy as independent predictors were not significantly related to entrepreneurs' incomes. However, their interaction had positive significant effects on income. Entrepreneurs' incomes are normally closely linked to volume of sales and profits, which can also be considered indicators of performance. Entrepreneurs with highly performing ventures are likely to earn higher incomes. Therefore, this finding confirms the role of psychological capital in entrepreneurial performance and reaffirms the proposition that psychological capital has a higher impact on entrepreneurs' behavior if they experience higher levels of autonomy. Entrepreneurs can enhance their incomes through expanding markets, making more investments, exploiting new opportunities, changing strategies, networking, and adapting or innovating in relation to competition trends and other related business processes. These activities are all linked to psychological resources of entrepreneurs. Our results suggest that for psychological capital to facilitate these processes and activities, entrepreneurs need to feel the autonomy to decide and to act.

Previous research has indicated that income greatly influences the satisfaction of startup owners, at least for the necessity entrepreneurs (Block and Koellinger 2009). However, it has also been noted that individuals in self-employment tend to earn less than their counterparts in salaried-employment (Hamilton 2000). In Study 2, we observed that entrepreneurs' level of income is only marginally related to their satisfaction, and almost unrelated to meaning in life. Meaning in life was only significantly predicted by psychological capital and autonomy. The interaction of these mindset aspects, as well as their interaction with level of income, did not have substantial effect on meaning in life. On the other hand, we observe that the interactions of psychological capital and income as well as that of autonomy and income have negative effects on entrepreneurs' satisfaction; indicating that psychological capital and autonomy tend to be major contributors to entrepreneurs' satisfaction when their incomes are too low. Thus, the optimism and hope that entrepreneurs have about their business, and/or the independence in work are essential for owners of small business. For those with high incomes and high autonomy, psychological capital and autonomy tends to contribute less to their satisfaction.

Last, we assessed entrepreneurs' commitment or willingness to continue working in self-employment (Study 2). Our findings offer evidence regarding the relationship between positive psychological attributes and entrepreneurial persistence (Adomako et al. 2016; Patel and Thatcher 2014; Bates 1990). Persistence in entrepreneurial roles is important for several reasons. First, financial returns on investment in entrepreneurial activities often accrue in the long term. Moreover, entrepreneurship can best contribute to economic development of entrepreneurs if they sustain their entrepreneurial efforts. Moreover, in the dynamic labor market, self-employment is playing a major role in reducing unemployment. Similar to Patel and Thatcher's (2014) study and in accordance with SDT (Ryan and Deci 2000a), our findings indicate that autonomy fosters motivation for commitment to entrepreneurial activities. When individuals have less psychological resources and experience low levels of autonomy, the intrinsic interest and enjoyment of entrepreneurial activities may decrease, resulting in an exit. Conversely, when individuals

have higher psychological capital, they are likely to be resilient during negative experiences and to take risks. Coupled with the autonomy to decide and act, individuals with higher psychological capital and autonomy have a higher likelihood of persistence. Moreover, our results suggest that the effects of psychological capital and autonomy on commitment to entrepreneurial career roles are transmitted through satisfaction. Entrepreneurs with lower satisfaction are less likely to persist in an entrepreneurial activity.

5.1. Theoretical and practical implications

The findings from the two studies have important implications for theory and practice. First, the findings extend the application of psychological capital concept (F. Luthans, K. Luthans, and B. Luthans 2004; Luthans and Youssef-Morgan 2017) to explaining critical entrepreneurial outcomes. Most of the entrepreneurial psychology research seeks to understand the cognitions and behaviors that lead to successful entrepreneurship. The results of the present studies contribute to this goal by showing that psychological resources, summed up as psychological capital, contribute significantly to the realization of entrepreneurial outcomes, both subjective and objective. Whereas individuals may choose entrepreneurship as a career, actual entry and establishment phases require psychological resources to identify opportunities that are invisible to others, to overcome the numerous challenges involved in the different phases of entrepreneurial development and to cope with stress involved in everyday work of an entrepreneur (Baron, Franklin, and Hmieleski 2016). Our results indicate that when entrepreneurs have high psychological resources, they are likely to realize several desirable outcomes including income, satisfaction, wellbeing, and persistence in entrepreneurship.

Similarly, the present studies also extend the application of SDT (Deci and Ryan 1980; Deci and Ryan 2015) to entrepreneurial research. Accordingly, work is a venue for individuals to satisfy their psychological needs to facilitate psychological growth. Moreover, these affect work motivation and persistence. Research has specifically focused on autonomy as a pull factor to entrepreneurial roles (e.g., Nabi, Walmsley, and Holden 2013). Findings of the present studies support that view that autonomy is an outcome that individuals seek from entrepreneurial engagements to further their psychological growth. Moreover, achievement of this need facilitates realizing of other essential outcomes including meaning in life, satisfaction, and commitment to entrepreneurial career roles. Importantly, our results suggest that autonomy is a precondition necessary for entrepreneurs to use their psychological resources, which further enhances satisfaction and commitment, as well as the likelihood of earning a higher income.

Our studies also contribute to the growing body of literature that is expanding the scope of entrepreneurial success. Recently, scholars have made observations that focus on financial measures to assess success is inadequate given that entrepreneurship provides much more than just financial benefits but also psychic benefits (Rindova, Barry, and Ketchen 2009; Jennings, Jennings, and Sharifian 2016). By investigating psychological outcomes including satisfaction, commitment, and meaning in life, we have demonstrated that entrepreneurial success includes measurement of psychological goals. In addition, our study has demonstrated that achievement of entrepreneurial success is also facilitated not just by economic resources but also by psychological inputs. Moreover, our findings also highlight the relationship between objective outcomes (income) and subjective outcomes (satisfaction). Whereas income does not directly relate to satisfaction, it is an

antecedent that moderates the effects of psychological capital and autonomy on entrepreneurs' satisfaction.

In addition to these theoretical implications, these studies also provide suggestions for practice particularly regarding soft skills needed by entrepreneurs. We have demonstrated that entrepreneurial success is significantly influenced by mindset related factors. This finding has implications for entrepreneurial training, mentoring, and counseling. Particularly, entrepreneurs should be supported in developing their psychological resources and how to apply them in the entrepreneurial processes. Enabling individuals to develop their psychological capital is valuable since it results in positive behaviors (Luthans, Youssef, and Avolio 2007); this, in turn, leads to desirable entrepreneurial outcomes. In accordance with the call for entrepreneurial education to focus on enhancing capacity for autonomous action (van Gelderen 2010), our studies have demonstrated that several aspects of entrepreneurial success are closely linked to the level of autonomy. Therefore, goals for training and support interventions should include strengthening entrepreneurs' mindsets by assisting them in developing psychological resources and the ability to act autonomously.

5.2. Limitations and further research

Despite the merit of providing data of two samples (including both a developed and a developing country), these studies are not without limitations. First, both studies used self-report measures only; thus, a possibility of social desirability bias (Miller 2012) especially in responses regarding one's own psychological resources and the subjective outcomes cannot be ruled out. There is a likelihood that this bias might inflate the observed relationships among the psychological resources and entrepreneurial outcomes. Second, although the paper is constituted by two studies, these are cross-sectional surveys; therefore, they do not provide adequate evidence for concrete conclusions regarding the extent to which psychological capital and autonomy indeed influence the entrepreneurial outcomes measured in these studies. Reversed causation effects – i.e., that entrepreneurs with better outcomes (e.g., higher salary, more job satisfaction) also evaluate their positive mindset in a more positive way – could not be explored. Future studies might need to adopt experimental and longitudinal approaches in examining the extent to which psychological capital co-varies with different objective and subjective entrepreneurial outcomes in the long-term. Additionally, intervention research where entrepreneurs are supported to develop their psychological capital and capacity for autonomous action and observations of how these translate into enhanced entrepreneurial outcomes might be beneficial to entrepreneurship literature and practice.

Third, each of the studies reported in this paper examined quite different outcomes, with the exception of entrepreneur's job satisfaction, which was measured in both studies. Therefore, the results do not provide a basis for comparing the impact of psychological resources in different populations. The finding that psychological capital and autonomy and their interaction affect subjective outcomes differently among Uganda sample (Study 1) and German sample (Study 2), especially entrepreneurs' satisfaction, point to the likely effects of cultural differences. Therefore, robust cross-cultural studies might be important in establishing cultural differences in the impact of psychological resources and autonomy on different entrepreneurial outcomes; in line with (Luthans and Youssef-Morgan 2017) call for cross-cultural studies on psychological capital. Last, Study 2 measured an objective outcome of income. However, our measure evaluated income only in terms of the entrepreneurs' take-home monthly income. This finding is not representative of the

actual financial performance of the venture. Future research, as suggested by Baron, Franklin, and Hmieleski (2016) should also include measures that assess the actual financial performance, and other objective outcomes.

5.3. Conclusion

We proposed that a positive mindset consisting of psychological capital (positive psychological resources) and autonomy (feeling of freedom at work to decide and take action) are essential for the realization of important entrepreneurial outcomes (including income, satisfaction, meaning in life, and commitment to entrepreneurial career). Our results from two studies among independent samples (from Uganda and Germany) suggest that entrepreneurs' psychological capital and the actual experience of autonomy in entrepreneurship are critical contributors for achieving these outcomes. We also demonstrated that autonomy appears to be an important precondition for entrepreneurs to utilize their psychological resources. These findings suggest that a mindset characterized by positive thinking and feeling of autonomy not only motivates entrepreneurs to work diligently and persist but also elicits positive behaviors necessary for the achievement of a wide range of subjective and objective outcomes. Therefore, entrepreneurs do not compete and succeed with the help of sheer magic or luck; instead, the psychological resources constitute the magical ingredient for successful entrepreneurship, matching the description of 'HERO within' (Luthans and Youssef-Morgan 2017) for entrepreneurs. Its contribution is dependent on the level of autonomy. We further demonstrated that income earned and entrepreneurs' job satisfaction provide further mechanisms that moderate and mediate (respectively) the effects of psychological capital and autonomy on other entrepreneurial outcomes.

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