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## Psychological capital and the startup capital—entrepreneurial success relationship

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Research has demonstrated that psychological strengths have important influences on entrepreneurial behavior. The current study explored the interaction between entrepreneurs' positive psychological capital and startup capital in leading to entrepreneurial success. Focus is on how owners of small scale enterprises use their psychological strengths to achieve their business goals. Using a sample of 384 entrepreneurs selected from the two leading business districts in Uganda, we observe that optimism is the component of psychological capital that significantly moderates the relationship between startup capital and entrepreneurial success. Both startup capital and psychological capital are significant predictors of entrepreneurial success; however, psychological capital is the better predictor. The theoretical and practical implications of these findings on entrepreneurial behavior, success and entrepreneurship promotion interventions are discussed.

**Keywords:** entrepreneurial success; micro-enterprises; optimism, psychological capital; startup capital

La recherche a démontré que les forces psychologiques ont une influence importante sur le comportement entrepreneurial. La présente étude a exploré l'interaction entre le capital psychologique positif et le capital de départ, vers le succès entrepreneurial. L'accent est mis sur la manière dont les propriétaires de petites entreprises emploient leurs forces psychologiques pour atteindre leurs objectifs commerciaux. En nous appuyant sur un échantillon composé de 384 entrepreneurs sélectionnés dans les deux quartiers d'affaires les plus importants de l'Ouganda, nous observons que l'optimisme est la composante du capital psychologique qui modère considérablement le rapport entre le capital de départ et le succès entrepreneurial. Le capital de départ comme le capital psychologique sont des prédicteurs significatifs du succès entrepreneurial, bien que le capital psychologique s'avère être le plus précis des deux. Les implications théoriques et pratiques de ces constatations sur le comportement entrepreneurial, le succès et la promotion de l'entrepreneuriat sont discutées.

**Mots-clés:** succès entrepreneurial; micro-entreprises; optimisme, capital psychologique; capital de départ

### Introduction

Uganda, like many developing countries, is directing considerable efforts towards entrepreneurship as a vehicle for economic development. This focus is reflected in the Uganda

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Vision 2040 ‘A transformed Uganda, from a peasant economy to a modern and prosperous country within 30 years’ (Uganda National Planning Authority – NPA 2013). Entrepreneurship is identified as a key strategy for achieving this vision. Consequently, entrepreneurship is taking center stage in the economic discourse of the country, and approximately 32.8% of people are engaged in early-stage entrepreneurial activities and the entrepreneurial propensity of youth is estimated at 55% (Singer, Amorós, and Arreola 2014). However, entrepreneurship is a complex issue in the context of less-developed countries, where social, economic and political conditions tend to frustrate entrepreneurial efforts.

A bitter reality in the case of developing countries is the mismatch between the increase in entrepreneurial activities and the disturbingly low rates of success (Gindling and Newhouse 2014). This phenomenon has largely been attributed to a lack of access to capital, which forces nascent entrepreneurs to start ventures with inadequate resources (Brush, Manolova, and Edelman 2008; Snyder 2000; Tushabomwe-Kazooba 2006). The average startup capital for micro-enterprises in Uganda is approximately US \$290 (UGX 786,082), with some entrepreneurs investing less than one dollar (Rooks, Szirmai, and Sserwanga 2009). The generally low amount of startup capital negatively affects success (Merz, Schroeter, and Witt 2010; Okurut, Banga, and Mukungu 2004).

While emphasis has been placed on access to financial capital, business success is also closely tied to specific psychological attributes, which moderate business success through behaviors such as business leadership, financial discipline, networking, resource management, and building relationships with employees and customers. Business startup and success require more than just financial and material resources. This study investigates the role of psychological capital in terms of intangible resources that entrepreneurs may require for success. Research on the components of psychological capital, such as optimism and self-efficacy, has found that they play a role in entrepreneurial behavior and success (Gartner 2005; Hmieleski and Baron 2009; McGee et al. 2009).

To date, entrepreneurship scholars have focused primarily on economic capital, which includes financial and other tangible resources (Dunn and Holtz-Eakin 2000; Gartner 1985); human capital, which comprises experience, education, knowledge and skills (Unger et al. 2011), and social capital (Baron and Markman 2003; Davidsson and Honig 2003; Lengyel 2015). Among these antecedents of entrepreneurial success, knowledge and financial resources tend to be the most important for micro-entrepreneurs in developing countries (Cho 2015; Chu et al. 2011; Gindling and Newhouse 2014). The role of psychological capital in entrepreneurial success has received limited attention in the entrepreneurship literature.

Although increasing attention is being given to psychological capital in entrepreneurship inquiry, it is overwhelmingly conceptualized as a resource for coping with difficult situations that may challenge an entrepreneur (Zou et al. 2015). A few studies have focused on the direct effect of psychological capital on success; for example, Newman, Schwarz, and Borgia (2014) observe that psychological capital mediates between micro-finance provision and entrepreneurial outcomes. The current study uniquely highlights the interaction effect of psychological capital (self-efficacy, hope, optimism, resilience and trust) and start-up capital (funds, material resources, knowledge and experience) on the success of micro-entrepreneurs. Contrary to the conventional four-dimensional psychological capital construct, the current study includes a fifth dimension of ‘trust,’ as proposed by Page and Donohue (2004).

## Theoretical framework

### *Economic theories related to entrepreneurial success*

A number of economic perspectives tend to posit that entrepreneurial intention and actual entrepreneurial behavior are motivated by pull or push factors. These motivating factors can also facilitate entrepreneurial success or failure. One such perspective is the *Equilibrium Model of the Labor Market*, which views entrepreneurship as an employment alternative (Parker 2004, 2005). The equilibrium model suggests three paths to entrepreneurship. Foremost is the idea that highly talented individuals spent most of their time establishing enterprises, while the less-talented seek jobs. Second is the proposition that individuals can either choose self-employment, which carries high risks, or paid employment, which is less risky. The last proposition in the equilibrium model is the assumption that highly talented entrepreneurs specialize in creating enterprises, while the less-talented entrepreneurs specialize in managing businesses created by others (Startienė, Remeikienė and Dumčiuvienė 2010). A related school of thought is the *Resource Distribution Theory* (Banerjee and Newman 1993), which assumes that the wealthy choose entrepreneurship, while those with less income seek salaried positions (Startienė, Remeikienė and Dumčiuvienė 2010). This model has been supported by the findings of a number of studies, including Disney and Gathergood (2009), Dunn and Holtz-Eakin (2000), Mesnard and Ravallion (2001), and Poschke (2013). However, Mesnard and Ravallion (2001) caution that wealth redistribution would only have a minor effect on entrepreneurship.

While the above two models describe those who are likely to enter entrepreneurship, they do not explain who is likely to succeed in an entrepreneurial venture. The *Dynamic Selection Model* attempts to address that question by describing the dynamics of competing and surviving in the market (Parker 2004). According to this model, individuals have limited knowledge about their entrepreneurial capabilities and learn more by trying. Those with inadequate entrepreneurial abilities quit immediately; however, the longer an individual remains self-employed, the greater his or her chance of continuing on that path (Tervo and Haapanen 2010). This model does not help explain why some entrepreneurs succeed and others fail, given that persistence is not synonymous with success; however, it does lead to the proposition that the psychological resources required for entrepreneurial success can be acquired and/or strengthened through continued persistence with entrepreneurial activities.

### *Psychological theories related to entrepreneurial success*

Beyond the economic factors, entrepreneurial ability is influenced by individual characteristics and differences. Psychological attributes in particular play a major role in entrepreneurial intentions and behavior. In this section, we focus on the theoretical perspectives related to role of psychological resources in the entrepreneurial process. The first perspective is Lent, Brown, and Hackett's (1994) *Social-Cognitive Career Theory (SCCT)*, which explains vocational choices. This theory differs from Holland's (1997) notion of vocational personalities; it posits that the interaction between an individual's cognitive capabilities and his/her environment determines both the individual's vocational interests and his/her likelihood of achieving success (Brown et al. 2011). The focal idea is that amidst environmental factors (Lent 2005), individuals have the capacity to direct their own careers. Therefore, a person's decision to become an entrepreneur, persist in the endeavor, and consequently succeed is a function of both cognitive processes and environmental factors. The theory further explains success in entrepreneurship by

claiming that performance is influenced by self-efficacy and outcome expectations, which are direct or indirect results of general cognitive ability and specific skill sets (Brown et al. 2011). This explanation suggests that a number of psychological capital dimensions play an important role in entrepreneurial success.

Ajzen's (1991) *Planned Behavior Theory* is increasingly gaining popularity in the study of entrepreneurial intentions (Krueger, Reilly, and Carsrud 2000; Lin et al. 2013). The theory attributes behavioral intentions to attitudes, social norms and perceived control (Lin et al. 2013; Obschonka, Silbereisen, and Schmitt-Rodermund 2010; Schlaegel and Koenig 2014; Tkachev and Kolvereid 1999; Zhang, Duysters, and Cloodt 2014). However, intentions strongly predict entrepreneurial behavior (Kautonen, Gelderen, and Fink 2013; Lin et al. 2013; Krueger, Reilly, and Carsrud 2000). In the realm of this theoretical perspective, it could be argued that individuals make deliberate efforts to plan their entrepreneurial entry and exit. Indeed, Krueger, Reilly, and Carsrud (2000) showed that much of entrepreneurial behavior is intentionally planned. Consequently, this theory is not only the most widely applied (Lin et al. 2013), it is also widely supported by empirical studies, such as Schlaegel and Koenig (2014) meta-analysis of determinants of entrepreneurial intentions shows. Several empirical studies show that the three factors emphasized in *Planned Behavior Theory* are significant predictors of entrepreneurial intentions (Kautonen, Gelderen, and Fink 2013, Tsai, Chang, and Peng 2014; Van Gelderen et al. 2008; Zhang, Duysters, and Cloodt 2014). The current study, however, focuses on success in entrepreneurship, and the theory posits that the entrepreneurial process is indirectly affected by personal and situational factors via attitudes and behavioral motivation (Krueger, Reilly, and Carsrud 2000). Clearly, dimensions of psychological capital can stimulate behaviors among entrepreneurs that can promote success or cause failure.

### ***Psychological capital and entrepreneurial success***

Entrepreneurial capital is based on the aggregate capital that the entrepreneur possesses (Firkin 2003). This is inclusive of psychological resources, which together represent psychological capital. Psychological capital involves the entrepreneur's conviction that he/she has the ability to start a venture and the capacity to recognize and utilize business opportunities (Ramos-Rodríguez et al. 2010), which Luthans, Luthans, and Luthans (2004) refer to as positive psychological capital. This form of capital comprises confidence (self-efficacy), optimism, hope and resilience (Luthans, Youssef, and Avolio 2007), and trust (Page and Donohue 2004). This study explores the role that each of these characteristics plays in business success.

### ***Self-efficacy and entrepreneurship***

Confidence, or self-efficacy, is the most studied aspect of psychological capital in relation to business venturing, and it has been found to positively influence entrepreneurial intentions and actions. Self-efficacy is the belief in one's own abilities to successfully accomplish a specific task or job or attain a given goal (Bandura 1977, 1997). In an entrepreneurial sense, self-efficacy is the confidence that inspires individuals to accomplish the challenging tasks (Boyd and Vozikis 1994; Luthans, Youssef, and Avolio 2007; Luthans et al. 2007; Newman et al. 2014) involved in entrepreneurship. Such psychological strength has been found to have a strong impact on performance of an enterprise (Prajapati and Biswas 2011). This impact occurs via the three forms of self-efficacy

identified by Barbosa, Gerhardt, and Kickul (2007): relationship self-efficacy, managerial self-efficacy, and tolerance self-efficacy.

These forms of efficacy are clearly necessary at different levels of enterprise development (Culbertson, Smith, and Leiva 2011). Efficacy plays a role in the development of entrepreneurial intentions, which involves identifying and assessing opportunities (Barbosa, Gerhardt, and Kickul 2007; Boyd and Vozikis 1994; Dimov 2010; Sequeira, Mueller, and McGee 2007; Tsai, Chang, and Peng 2014). During the same process, confidence is required in assessing one's ability and in the actual exertion of efforts to obtain the required resources to exploit the available business opportunities (Dimov 2010; McGee et al. 2009) and to reduce the perceptions of risk and the likelihood of failure (Goel and Karri 2006; Krueger and Dickson 1994). Even in the face of conflicts with stakeholders, entrepreneurs with higher self-efficacy feel secure and able to address such challenges (Zou et al. 2015). Thus, self-efficacy enhances one's belief in the likelihood of success when presented with a business opportunity. After the establishment phase, persistence in the entrepreneurial role becomes important; at that point, persistence is a function of one's self-perceived ability to overcome daunting challenges (Bullough, Renko, and Myatt 2014; Dimov 2010; Gist 1987; Goel and Karri 2006; Bandura 1977). Therefore, an entrepreneur's level of efficacy is a factor in his/her continuation or abandonment of business startups.

Research on entrepreneurial self-efficacy and business-related outcomes suggest that high self-efficacy is purely beneficial for business growth and success. However, Jain and Ali (2013) cite a few studies suggesting that extremely high levels of entrepreneurial self-efficacy can be detrimental to the business, particularly when deciding how to respond to setbacks (Trevelyan 2008). Empirical evidence in Artinger and Powell (2015) study shows that entrepreneurs' overconfidence is an antecedent of venture failure. Such studies warn of likely complacency resulting from overconfidence.

**H1a:** Self-efficacy is positively related to entrepreneurial success.

**H1b:** Self-efficacy has a positive moderating effect on the relationship between startup capital and entrepreneurial success.

### *Optimism and entrepreneurship*

Optimism is a motivating psychological force that builds confidence in the likelihood of positive outcomes now and in the future (Luthans, Avolio, and Avey 2007; Trevelyan 2008). This motivation results in action, resilience and commitment (Trevelyan 2008). Entrepreneurs particularly tend to have high dispositional optimism, which 'tendency to expect positive outcomes even when such expectations are not rationally justified' (Hmieleski and Baron 2009). Entrepreneurship is a vocation that individuals choose over other employment options because of the expected positive outcome (Hammarstedt 2009; Rigotti, Ryan, and Vaithianathan 2011). In this regard, research suggests that highly optimistic individuals are more likely to become entrepreneurs (Dushnitsky 2010). At the extreme, De Meza and Southey (1996) posited that only optimists become entrepreneurs. Optimists also tend to have a high level of self-efficacy; they often have the confidence that they have the abilities to become successful entrepreneurs. According to Storey (2011), it is this very trait that attracts optimistic people to business.

Optimism is related to entrepreneurial entry and persistence as well as performance. It makes an important contribution to the decision to become an entrepreneur or to be self-employed (Fraser and Greene 2006; Trevelyan 2008) and forego the higher pay available

from other employment options (Storey 2011). Even in the absence of capital resources, optimists have the zeal to take the risk of seeking outside funding or to begin a venture with less wealth (De Meza and Southey 1996). Entrepreneurial optimism is also associated with size and performance of new firms (Fraser and Greene 2006; Hmieleski and Baron 2009). Optimism, the expectation of an eventual pay off, is needed in at times of uncertainty, when businesses suffer setbacks or when returns are low (Storey 2011; Trevelyan 2008).

Hmieleski and Baron (2008), on the other hand, found a negative relationship between entrepreneurs' optimism and their firms' performance (in terms of revenue and employment growth). This negative relationship was moderated by past experience; however, the relationship might differ if the criteria were expanded to include non-economic indicators of success. Along similar lines, Luthans et al. (2007) noted that realistic optimism should be used to help individuals evaluate what is actually attainable in certain situations.

**H2a:** Optimism is positively related to entrepreneurial success.

**H2b:** Optimism positively moderates the relationship between startup capital and entrepreneurial success.

### *Hope and entrepreneurship*

Luthans, Avolio, and Avey (2007) describe hope as a motivational state of persistence towards goals and, when necessary, changing the path toward a goal to attain success. They propose three conceptual foundations of hope: agency (the will or motivational energy to pursue a goal); pathways (the identification of goals and alternatives ways to reach them); and goals. These proposed foundations are in line with Snyder's (2002) conception that hope consists of the perceived ability to develop paths toward achieving one's desired goals and the ability to motivate oneself to use those pathways to achieve the set goals. Such capabilities are important for every entrepreneur to ensure persistence in the pursuit of goals and to improve entrepreneurial confidence and optimism (DiPietro et al. 2007).

According to Snyder et al. (1996), the ability to envision multiple approaches to challenging situations decreases individuals' stress. Indeed, entrepreneurs with higher psychological capital have lower levels of stress (Baron, Franklin, and Hmieleski 2013). This finding indicates the importance of hope as a psychological resource in highly stressful entrepreneurial situations. Entrepreneurs who score high on measures of hope are more likely to find alternative ways to address business pressures and challenges. In addition, DiPietro et al. (2007) noted that people who score high on indicators of hope are more positive about their success via their focus on goal attainment and on the different ways to achieve a goal. This positivity and focus on goals is extremely important when making business decisions. To be successful, an entrepreneur needs to remain positive about the possibility of succeeding, even during turbulent times.

**H3a:** Hope is positively and significantly related to entrepreneurial success.

**H3b:** Hope has a positive and significant effect on the relationship between startup capital and entrepreneurial success.

### *Resilience and entrepreneurship*

Resilience is the aspect of psychological capital that involves coping and adapting to risks or adversity (Masten 2001). In the face of threats and setbacks, resilience enables

individuals to keep moving towards the desired goal. Luthans, Avolio, and Avey (2007) defined resiliency as the individual's capacity to bounce back from adversity, uncertainty, conflicts, and failure and adapt to positive change, progress and increased responsibility. In support of this definition, Brandt, Gomes, and Boyanova (2011) argued that in terms of positive psychology, it is fitting for the definition of resiliency to expand to include individuals' ability to adjust to positive challenging events as well as negative ones.

There is an evident lack of research efforts linking resiliency to business outcomes. Much of the resilience research in organizational and management theory has focused on resiliency among employees. Luthans et al. (2005) found that resiliency is significantly related to employee performance; however, the link between an entrepreneur's resilience levels and performance of his/her business needs to be investigated. The scant evidence available suggests that resiliency is an important resource for the entrepreneur when faced with adverse situations (Bullough, Renko, and Myatt 2014) and when there is need to change plans (Trevelyan 2008). Adopting certain business approaches or innovations that may take longer or require extra efforts to be accepted by society may demand high resilience levels (Hanson and Blake 2009). Resilience can therefore be a resource for problem-solving in businesses. Werbel and Danes (2010) propose that resilience is also a foundation for trust and shared meaning in family businesses. We hope that this study will make a significant contribution to the literature on entrepreneurial resiliency.

**H4a:** Resiliency is positively related to entrepreneurial success.

**H4b:** Resiliency has a positive moderating effect on the startup capital–entrepreneurial success relationship.

### *Trust and entrepreneurship*

Trust is a complex concept that is well researched in social, management, entrepreneurship and organization theory. Its complexity stems from differences in its definitions, source and impact. Welter (2012) postulates that trust is elusive and is based on the perception that probabilities will behave as expected. Paine (2003) posits that trust has several dimensions, including competence (the ability to fulfill promises), integrity (a belief in fairness and justice), dependability, openness and honesty, vulnerability (making oneself vulnerable to others), concern for others, identification (the extent to which common goals are held), control mutuality (the degree of power to influence one another), satisfaction and commitment to the relationship.

The above-mentioned dimensions are necessary at different stages of an enterprise. First, they are critical to building cohesiveness and effective communication among an enterprise's team members (Weimann et al. 2010). A trustworthy entrepreneur is more likely to win the trust of employees and other stakeholders, and such trust is necessary when establishing and sustaining business firms (Goel and Karri 2006; Welter 2012). Second, entrepreneurship involves numerous challenging situations starting at the nascent stage, and trust can be the key to finding solutions (Welter and Smallbone 2011). Particularly, trust can help build networks that can provide the resources required for the business. Paine (2003) observed that trust or its lack squarely affects the financial health of an enterprise.

While trust is important for entrepreneurs, it can be difficult to establish at some stages. It is particularly difficult for nascent entrepreneurs (Panda and Dash 2013) given that the future of the venture is unclear in its earliest stages. Over trusting entrepreneurs face a different scenario: researchers argue that entrepreneurs who are too trusting put

themselves at risk (Goel and Karri 2006; Zhao, Seibert, and Lumpkin 2010). It may be easier for dishonest stakeholders to exploit over-trusting entrepreneurs.

**H5a.** Trust is negatively related to entrepreneurial success.

**H5b.** Trust has a negative moderating effect on the relationship between startup capital and entrepreneurial success.

Overall, the role of psychological capital in entrepreneurship can be summarized by Gavin and Mason's (2004) call to focus on positive psychology to create more productive firms. After a decade, tremendous strides have been made in response to this call. However, greater efforts are required in areas such as optimism, hope, and resiliency. The knowledge about psychological capital in entrepreneurship requires further enrichment to aid in practical efforts. In addition, paying attention to the entrepreneurs' psychological attributes and behavior is important for creating positive organizations. We posit that psychological resources are equally important to or more important than economic/financial, social and human capital.

**H6:** Psychological capital, compared to startup capital, is a better predictor of entrepreneurial success.

## **Methodology**

The researchers used a cross-sectional survey design to observe the study population. This approach was appropriate for obtaining information from a large group of entrepreneurs themselves. Babbie (2007) noted that the survey approach is excellent for collecting original data to describe large populations that cannot be observed directly (Babbie 2007). The study surveyed 384 micro-entrepreneurs in Kampala and Wakiso, Uganda's major business hubs.

### ***The population and sample***

The study focused on micro-entrepreneurs in Uganda. The sample was drawn from Kampala and Wakiso districts. The two districts constitute more than a quarter (188,292) of the country's business population (Uganda Bureau of Statistics – UBOS 2011) because of their central location and wider market. A convenient sample of 384 was used based on Krejcie and Morgan (1970) table of standard samples. Only local micro-entrepreneurs were included in the sample, and only those who were able to understand and speak English were selected to avoid validity challenges arising from the translation of questionnaire items.

### ***Sample characteristics***

The sample included more male micro-entrepreneurs (52.6%) than female entrepreneurs. The majority of the respondents were youth (mean age = 30.98 years; range = 40 years) and 35.8% of the participants were highly educated (having obtained a bachelor's degree or beyond). The implications are that the male dominance in micro-entrepreneurship is reducing and that more educated youth are now engaging in entrepreneurship as an employment alternative.

Following the UBOS (2011) classification of businesses, we noted that more than half of the entrepreneurs in this study (52.6%) were engaged in trade (retail and wholesale trading). Financial intermediation and insurance services accounted for the second

highest proportion of participants (12.8%); the entrepreneurs in these fields were often owners of mobile telephone banking booths and money lenders. Only 6.0% of the participants were engaged in manufacturing, and 3.1% were involved in agribusinesses. Surprisingly, only 52.5% of the participants, predominantly those engaged in trading and financial intermediation, had registered businesses. In terms of type, the entrepreneurs were classified as nascent, novice and habitual (Webster 1977; Westhead and Wright 1998), mainly on the basis of their experience levels. In this study, 67.8% were novice entrepreneurs, while the rest were habitual entrepreneurs (13.3% were serial entrepreneurs and 18.8% were portfolio entrepreneurs). Nascent entrepreneurs are essentially prospecting entrepreneurs, while novice entrepreneurs are those who found, purchased or inherited ventures with no prior experience of owning a business (Balunywa 2009; Webster 1977). In comparison, habitual entrepreneurs have prior experience owning a business (Balunywa 2009). Habitual entrepreneurs can be either serial or portfolio: serial entrepreneurs have managed or owned several businesses, but one at a time, while portfolio entrepreneurs establish or own several businesses at the same time (Balunywa 2009; Westhead and Wright 1998).

### ***Instruments and measurement***

The Psychological Capital Questionnaire (PCQ) self-rated version by Luthans, Avolio, and Avey (2007) was adopted to measure four of the dimensions of psychological capital (self-efficacy, resilience, hope and optimism). The questionnaire consists of 24 items measured on a scale of 1 (strongly disagree) to 6 (strongly agree). To measure the fifth dimension, trust, Paine (2003) trust questionnaire was adopted. The two questionnaires were merged, and their perspectives were shifted from that of an employee to that of the entrepreneur.

The PCQ has been found to have high validity and reliability. Psychometric data presented by Dawkins et al. (2013) show that this version of the PCQ has an overall reliability coefficient  $\alpha$  of .88–.89. However, the test–retest reliability of this questionnaire is low (.52). The reliability coefficients for the components are as follows: self-efficacy .75–.84, hope .72–.80, optimism .69–.76, and resilience .66–.72. Dawkins et al. (2013) also reveal that the PCQ has high construct validity, and has significant predictive validity for performance. The combined and modified questionnaire had an overall high reliability, with a Cronbach's coefficient  $\alpha$  of .81.

The questionnaires on start-up capital and entrepreneurial success were designed by the researchers because there is no agreement among scholars of what constitutes startup capital and entrepreneurial success. The measures used in this study, therefore, are based on the nature of local businesses and the different types of startup capital that entrepreneurs use. The startup capital questionnaire comprised nine items measuring four components: financial capital, material capital (personal material resources diverted for business purposes), knowledge, and experiential capital (experience in managing businesses). The researchers considered all of these to be important forms of capital, given that micro-entrepreneurs in Uganda lack access to adequate financial resources and hence use their own personal resources, knowledge and experience as startup inputs. The items were designed using a mix of scales. Sample items include: How much money (in Uganda Shillings) did you use to start this business? (responses include (a) less than 500,000; (b) 500,000–1,000,000; (c) between 1,000,000 and 5,000,000; (d) 5,000,000–10,000,000; (e) 10,000,000–50,000,000; (f) more than 50,000,000); Before starting your business, did you have any experience handling/ managing businesses? (responses include (a) no experience at all; (b) less than one year experience; (c) 1–3 years' experience; (d) 3–5

years' experience; (e) more than 5 years' experience); and What were the source(s) of your startup capital? (open-ended item). The startup capital questionnaire had a Cronbach's coefficient  $\alpha$  of .72.

The entrepreneurial success questionnaire was designed using a Likert scale (1 – disagree strongly to 5 – agree strongly). The instrument comprised 16 items measuring four factors of success: financial rewards, survival time, owner's satisfaction and generated employment. Sample items include: the financial success of my business in the past year has been impressive, and I am satisfied with the rate at which my business is growing. The questionnaire had a high reliability coefficient  $\alpha$  of .86.

### *Procedure*

The questionnaires were self-administered. However, in a few cases where the respondents preferred because they were not confident enough about their reading abilities, the questionnaires were completed with the help of a research assistant. However, the questionnaire was only administered to participants who were able to speak and understand English to avoid validity challenges arising from the translation of questionnaire items. During data collection, the purpose of the study was explained to the respondents before the administration of the questionnaire. This helped to remove any concerns among the entrepreneurs that their businesses were being spied on and to increase the likelihood that their responses would be truthful.

### *Analysis*

We used Pearson correlation tests to examine the relationships between dimensions of psychological capital and entrepreneurial success (**H1a**, **H2a**, **H3a**, **H4a**, and **H5a**). Moderated multiple regression (MMR) was applied to determine whether psychological capital dimensions had a moderating effect on the startup capital–entrepreneurial success relationship (**H1b**, **H2b**, **H3b**, **H4b**, and **H5b**). The first regression model included startup capital (independent variable) and entrepreneurial success (dependent variable). In the second model, the moderator variables (dimensions of psychological capital) were added to the regression. The third step was a regression model involving the independent moderator variables and the interaction variables (the product of startup capital and the dimensions of psychological capital). The scores were standardized to reduce multicollinearity. **H6**, which related to establishing which form of capital (startup capital versus psychological capital) is a better predictor of entrepreneurial success, was tested using multiple linear regression.

### **Results**

The first step was to assess the entrepreneurs' evaluation of the performance/success of their enterprises. At the end of the entrepreneurial assessment scale, each respondent was asked to respond to the item 'Overall, I rate this business as successful' using a Likert scale. Most of the respondents rated their businesses as successful, with a mean score of 4.17 and minimum and maximum scores of 1.00 and 5.00, respectively. It was also important to establish the relationship between startup capital and entrepreneurial success. A Pearson correlation test revealed a positive significant relationship:  $r = .15$ ,  $p < .01$ . Startup capital was further significantly correlated with two success factors (financial rewards:  $r = .10$  and  $p < .05$  and entrepreneur's satisfaction:  $r = .17$  and  $p < .001$ ), but not with the businesses' survival time or the employment generated.

Table 1. Correlation of psychological capital and entrepreneurial success.

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
(1) Self-efficacy	28.41	5.18	1.00									
(2) Hope	27.52	6.83	.36***	1.00								
(3) Resiliency	24.53	5.54	.33***	.34***	1.00							
(4) Optimism	24.18	3.87	.08	.27***	.10*	1.00						
(5) Trust	53.96	9.09	.42***	.44***	.33***	.34***	1.00					
(6) Entrepreneurial success (overall)	57.28	8.57	.08	.34***	.09	.40***	.34***	1.00				
(7) Financial rewards	20.79	4.08	-.08	.17***	-.07	.34***	.09	.84***	1.00			
(8) Owner's satisfaction	29.58	4.91	.09	.35***	.15**	.34***	.32***	.90***	.60***	1.00		
(9) Survival time	3.456	1.15	.30***	.16**	.22***	.02	.34***	.08	-.15**	-.01	1.00	
(10) Generated employment	3.45	1.31	.18***	.20***	.10	.17***	.34***	.46***	.26***	.27***	.18***	1.00

Significance: \*\*\*at 0.001 (two-tailed); \*\*at 0.01 (two-tailed); \*at 0.05 (two-tailed).

### *Relationship between psychological capital and entrepreneurial success*

We examined the relationships between the components of psychological capital and entrepreneurial success. The results showed positive significant relationships between the dimensions of startup capital and entrepreneurial success (Table 1). The correlation between self-efficacy and entrepreneurial success was not significant. However, self-efficacy had significant positive correlations with two of the components of entrepreneurial success: business survival time ( $r = .30, p < .001$ ) and generated employment ( $r = .18, p < .001$ ).

Hope was significantly correlated with entrepreneurial success and with all four components of entrepreneurial success. Resiliency had positive significant correlations only with owner's satisfaction ( $r = .15, p = .004$ ) and survival time ( $r = .22, p < .001$ ). Optimism had significant relations with overall entrepreneurial success scores ( $r = .40, p < .001$ ) and three of the components of success: financial rewards, owner's satisfaction and generated employment. There were also positive, significant correlations between trust and three aspects of entrepreneurial success: the entrepreneurs' satisfaction with the business ( $r = .32, p < .001$ ), the survival time of the business ( $r = .34, p < .001$ ) and the employment generated by the business ( $r = .33, p < .001$ ). These results support **H1a**, **H2a**, **H3a** and **H4a**, but not **H5a**.

### *Psychological capital and the startup capital–entrepreneurial success relationship*

The major focus of the study was to examine whether psychological capital moderates the relationship between startup capital and entrepreneurial success (**H1b**, **H2b**, **H3b**, **H4b** and **H5b**). An MMR analysis was conducted. The analysis involved determining the interaction effect for each of the components rather than the sum of the construct 'psychological capital.' To reduce the multicollinearity effect, variable scores were standardized through centralizing. A three-step hierarchical regression approach was used. First, only the independent variable (startup capital), which represents the main effect on the outcome variable (entrepreneurial success), was included in the regression model. In the second step, the moderator variables (components of psychological capital) were

added to the model. Finally, a set of interaction terms (the product of startup capital and each of the components of psychological capital) was added to the model (Table 2).

The results for model 1 confirm that startup capital is a significant predictor of entrepreneurial success. In model 2, the regression tested for the effect of both startup capital and the components of psychological capital on entrepreneurial success. The results were significant at  $F = 18.93, p < .001$  and predicted 22% of entrepreneurial success (adjusted  $R^2 = .22$ ). The effect size also increased ( $\Delta R^2 = .20$ ). Startup capital remained a statistically significant predictor of entrepreneurial success ( $\beta = .11, t = 2.37, p = .018$ ). Among the components of psychological capital, hope ( $\beta = .21, t = 3.89, p < .001$ ), optimism ( $\beta = .26, t = 5.32, p < .001$ ) and trust ( $\beta = .19, t = 3.39, p = .001$ ) had significant effects on entrepreneurial success.

Model 3 of the multiple regression shown in Table 3 tested for the moderating effects of the components of psychological capital on the relationship between startup capital and entrepreneurial success. The results show that the moderation effect was statistically significant only for optimism (startup capital  $\times$  optimism:  $\beta = .17, t = 3.51, p = .001$ ). The other four factors did not contribute significantly to the moderation effect (startup capital  $\times$  self-efficacy:  $\beta = .03, t = .57, p = .571$ ; startup capital  $\times$  hope:  $\beta = -.05, t = -.90, p = .368$ ; startup capital  $\times$  resiliency:  $\beta = .01, t = .13, p = .898$ ; and startup capital  $\times$  trust:  $\beta = -.04, t = -.67, p = .503$ ). However, the model remained statistically significant at  $F = 11.70, p < .001$ . The overall moderation effect was also small given that  $\Delta R^2$  was only .03, while the adjusted  $R^2$  changed by only .02).

To demonstrate the strength of the moderation effect of each component, separate scatter plots were developed for each component (see Appendix 1). These presentations indicated that self-efficacy had a weak moderation effect. High self-efficacy had an  $R^2$  linear of .035 (implying a correlation of .187 between startup capital and entrepreneurial success for entrepreneurs with high self-efficacy), and low self-efficacy had an  $R^2$  linear of .005 (implying a correlation of .071 between startup capital and entrepreneurial success for entrepreneurs with low self-efficacy). Hope also had a weak moderation effect. High scores on hope had an  $R^2$  linear of .021 (which is a correlation of .145 between startup capital and entrepreneurial success for entrepreneurs who scored high on hope). A high resiliency score had an  $R^2$  linear of .013 (a correlation of .114). Optimism had the strongest effect, which is consistent with the results shown in Table 2 that indicate that optimism was the only component of psychological capital that significantly moderated the relationship between startup capital and entrepreneurial success. High optimism had an  $R^2$  linear of .064, while low optimism had an  $R^2$  linear of .024 (implying a correlation of .252 between startup capital and entrepreneurial success for entrepreneurs with high optimism levels, compared with a correlation of .155 for entrepreneurs with low optimism levels). Regarding trust, high scores had an  $R^2$  linear of .030 (a correlation of .173 between startup capital and entrepreneurial success for entrepreneurs with high scores on trust).

Overall, these results supported our position that psychological capital significantly moderates the relationship between startup capital and entrepreneurial success. Given that four of the five components of psychological capital did not have significant moderation effects, the effect of the overall psychological capital scores was small. This is reflected in the scatter plot (Figure 1).

The scatter plot in Figure 1 shows that majority of the respondents had high scores on psychological capital measures and reported that their businesses were somewhat successful. The relationship between startup capital and entrepreneurial success was higher for entrepreneurs with higher psychological capital ( $R^2$  linear of .022, indicating a correlation of .148 between startup capital and entrepreneurial success for entrepreneurs with

Table 2. Multiple regression for moderation effect of the components of psychological capital.

Model	Unstandardized coefficients		Standardized coefficients		<i>t</i>	Sig.	Collinearity statistics		Model summary		ANOVA		
	<i>B</i>	Std. error	Beta				Tolerance	VIF	<i>R</i>	<i>R</i> <sup>2</sup>	Adjusted <i>R</i> <sup>2</sup>	$\Delta R^2$	<i>F</i>
1 <sup>a</sup>	(Constant)	57.28	.43		132.50	.000			.16 <sup>b</sup>	.03	.02	9.84	.002
	Startup capital	.48	.15	.16	3.14	.002	1.00	1.00					
2 <sup>a</sup>	(Constant)	57.26	.39		147.77	.000			.48 <sup>c</sup>	.23	.22	18.93	<.001
	Startup capital	.34	.14	.11	2.37	.018	.95	1.05					
3 <sup>a</sup>	Self-efficacy	-.16	.09	-.09	-1.79	.075	.75	1.34					
	Hope	.26	.07	.21	3.89	.000	.72	1.38					
3 <sup>a</sup>	Resiliency	-.09	.08	-.06	-1.13	.258	.81	1.23					
	Optimism	.58	.11	.26	5.32	.000	.85	1.18					
3 <sup>a</sup>	Trust	.18	.05	.19	3.39	.001	.65	1.53					
	(Constant)	57.25	.38		149.21	.000			.51 <sup>d</sup>	.26	.24	11.70	<.001
3 <sup>a</sup>	Startup capital	.37	.14	.12	2.57	.011	.93	1.08					
	Self-efficacy	-.16	.09	-.10	-1.79	.074	.72	1.40					
3 <sup>a</sup>	Hope	.27	.07	.22	4.11	.000	.72	1.40					
	Resiliency	-.10	.09	-.07	-1.19	.235	.63	1.60					
3 <sup>a</sup>	Optimism	.61	.11	.27	5.52	.000	.83	1.20					
	Trust	.16	.05	.17	3.03	.003	.62	1.61					
3 <sup>a</sup>	Startup capital × Self-efficacy	.28	.49	.03	.57	.571	.70	1.43					
	Startup capital × Hope	-.43	.48	-.05	-.90	.368	.71	1.41					
3 <sup>a</sup>	Startup capital × Resiliency	.06	.48	.01	.13	.898	.65	1.55					
	Startup capital × Optimism	1.46	.42	.17	3.51	.001	.89	1.12					
3 <sup>a</sup>	Startup capital × Trust	-.32	.47	-.04	-.67	.503	.67	1.50					

<sup>a</sup> Dependent variable: Entrepreneurial success.<sup>b</sup> Predictors: (Constant), Startup capital.<sup>c</sup> Predictors: (Constant), Startup capital, Self-efficacy, Hope, Resiliency, Optimism, Trust.<sup>d</sup> Predictors: (Constant), Startup capital, Self-efficacy, Hope, Resiliency, Optimism, Trust, Hope, Startup capital × Self-efficacy, Startup capital × Hope, Startup capital × Resiliency, Startup capital × Optimism, Startup capital × Trust.

Table 3. Regression analysis for the best predictor of entrepreneurial success.

Model	Unstandardized coefficients		Standardized coefficients		<i>t</i>	Sig.	Collinearity statistics		Model summary		ANOVA <sup>a</sup>	
	B	Std. error	Beta				Tolerance	VIF	<i>R</i> <sup>2</sup>	Adjusted <i>R</i> <sup>2</sup>	<i>F</i>	Sig.
1 (Constant)	57.24	.41			139.91	<.001			.14	.13	29.75	<.001 <sup>b</sup>
Startup capital	.30	.15	.10		2.02	.044	.97	1.04				
Psychological capital	.14	.02	.34		6.93	<.001	.97	1.04				

<sup>a</sup> Dependent variable: Entrepreneurial success.

<sup>b</sup> Predictors: (Constant), Startup capital, Psychological capital.

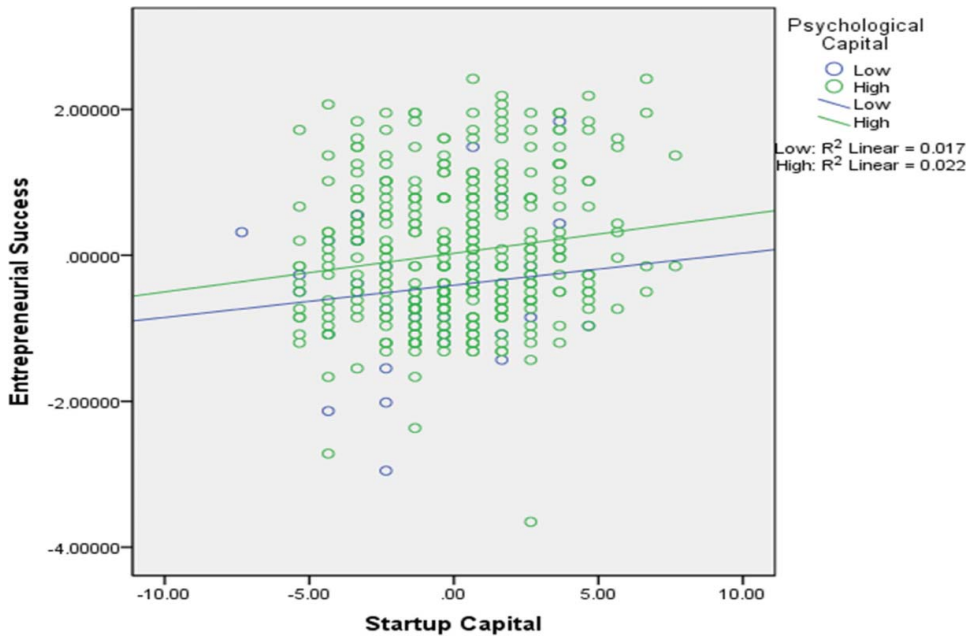


Figure 1. Scatter plot for the interaction between startup capital and psychological capital in influencing entrepreneurial success. The diagram was produced in SPSS based on primary data.

high psychological capital). In comparison, the relationship between startup capital and entrepreneurial success was weaker for entrepreneurs with low scores on psychological capital ( $R^2$  linear = .017).

### *The best predictor of entrepreneurial success*

The researcher was interested in identifying the better predictor of entrepreneurial success from two forms of capital: startup capital and psychological capital. Therefore, **H6**: psychological capital is a better predictor of entrepreneurial success was examined through multiple regression analysis.

The results in Table 3 show that the regression model was significant ( $F = 29.7, p = <.001$ ). The combination of startup capital and psychological capital accounted for 14% of entrepreneurial success (adjusted  $R^2 = .14$ ). Both forms of capital were statistically significant predictors of success (startup capital:  $\beta = .10, t = 2.02, p = .044$ ; psychological capital:  $\beta = .34, t = 6.93, p < .001$ ). These findings support the hypothesis that psychological capital is a better predictor of entrepreneurial success than startup capital. In the regression model in Table 3, psychological capital alone accounted for 34% of entrepreneurial success, while startup capital accounted for only 8.5%.

## **Discussion**

### *Psychological capital and entrepreneurial success*

This study investigated the relationship between psychological capital and entrepreneurial success. All five dimensions of psychological capital were positively related to

entrepreneurial success; hence, entrepreneurs with higher psychological capital are more likely to succeed than their counterparts. Further analysis revealed that psychological capital has significant influences on three components of success (entrepreneur's satisfaction, venture survival time and generated employment), but not on the fourth (financial outcomes). Indeed, entrepreneurs need positive thinking and behavior to allow their ventures to survive even in adverse situations and to generate a feeling of satisfaction. However, the profitability of micro-enterprises is also dependent on many other factors, including whether the venture is market- or entrepreneurial-oriented or both (Baker and Sinkula 2009).

An interesting observation was that self-efficacy and entrepreneurial success are positively but not significantly related. There is broad and undisputed literature praising the role that self-efficacy plays in success in different situations, and entrepreneurship is no exception. Researchers have noted that high confidence levels enable entrepreneurs to have good judgment of investment opportunities, harness their motivation toward their established set of entrepreneurial goals and persist in achieving those goals (Barbosa, Gerhardt, and Kickul 2007; Dimov 2010; Goel and Karri 2006; McGee et al. 2009). All of these effects are expected to increase the likelihood of a strong association between self-efficacy and entrepreneurial success. In contrast, an insignificant relationship exists between self-efficacy and overly high levels of confidence (Artinger and Powell 2015): it is possible that too much confidence leads to complacency among entrepreneurs, which negatively affects the relationship between self-efficacy and entrepreneurial success. On the positive side, there were strong positive relationships between self-efficacy and business survival time and generated employment, supporting Goel and Karri's (2006) finding that self-efficacy is linked to persistence in entrepreneurial tasks (Goel and Karri 2006). The higher the entrepreneur's level of persistence, the greater the likelihood that his/her enterprise will survive longer.

Limited literature addresses the role of hope in entrepreneurial success. Available evidence suggests that hope plays a central role in goal identification and pursuit (Luthans et al. 2007). The results of the current study suggest that hope is an important aspect of psychological capital for entrepreneurial success, including financial outcomes, the entrepreneurs' satisfaction, the survival time of the business and generated employment. The ability to set specific realistic goals and identify alternative paths to achieving them is likely to increase the commitment of entrepreneurs. Hope is also a driver of persistence. These intrinsic abilities make entrepreneurs with high scores for hope more likely to succeed. The achievement of established goals, whether financial or not, is a source of satisfaction for the entrepreneur.

Resilience was positively but not significantly related to overall entrepreneurial success. This is surprising because resiliency is defined as the ability to overcome challenges (Brandt, Gomes, and Boyanova 2011; Masten and Reed 2002) and thus was expected to be a significant factor in the overall success of micro-entrepreneurs. In contrast, resiliency had significant positive relationships with venture survival time and the entrepreneur's satisfaction. Certainly, entrepreneurship is a challenging career, given the current unstable and harsh business environment. These challenges require that entrepreneurs develop intrinsic and extrinsic mechanisms to enable their ventures to survive even during adverse times and while overcoming important business milestones. The ability to get through those difficult times is a source of satisfaction to the entrepreneur; however, it may not necessarily guarantee financial and overall success. Thus, resilience is necessary for allowing nascent micro-entrepreneurs to nurture their venture through the stressful early stages of a business.

The optimism aspect of psychological capital had the strongest correlation with entrepreneurial success, although it had a weak relationship with the business's survival time. Optimism was the only dimension of psychological capital that had significant positive relationship with financial outcomes. It is crucial to remember that optimism is the aspect of psychological capital that builds confidence in a positive outcome (Luthans et al. 2007; Fraser and Greene 2006; Trevelyan 2008); entrepreneurs become risk-takers because they expect positive tangible or intangible results (Hmieleski and Baron 2009; Trevelyan 2008), or what Storey (2011) termed as the expectation of a 'big win.' Two important ideas emerge from these findings: first, optimism plays a master role in the decision to develop and implement an entrepreneurial idea, and second, the expectation of positive outcomes provides motivation for persistence, commitment, and increased investment.

Trust is the fifth aspect of psychological capital. Its inclusion as a component was suggested by Page and Donohue (2004). The features of trust, including competence, integrity, dependability, honesty and concern for others (Paine 2003), are relevant for entrepreneurial responsibilities. Consistent with this idea, this study found a significant relationship between trust and entrepreneurial success, and trust was also significantly correlated with the entrepreneur's satisfaction, the venture's survival time and generated employment. A trusting entrepreneur has more chances of creating mutually supportive partnerships that add value to the enterprise. Avenues for more capital resources, guidance and knowledge and access to reliable workers, customers, and suppliers can all stem from mutually trusting business relations. In these ways, trust can help an enterprise's financial health (Paine 2003) and survival and generally lead to success.

Overall, psychological capital and all its dimensions have a strong influence on entrepreneurial success. Different dimensions are valuable at different times and contribute differently to entrepreneurial success. Therefore, the general idea is that entrepreneurs with high levels of psychological capital are likely to be more successful than their counterparts with low levels of psychological capital. These are important observations that can help in interventions aimed at improving the rate of entrepreneurial success among micro-entrepreneurs.

### ***Psychological capital and the startup capital–entrepreneurial success relationship***

The main focus of this study was to examine the moderation effect of psychological capital on the relationship between startup capital and entrepreneurial success. The interactive effect of each aspect of psychological capital and startup capital on entrepreneurial success was investigated. The study revealed a positive moderation effect. However, only one component, optimism, had a significant moderation effect on the startup capital–entrepreneurial success relationship. The moderating effect for the aspects of self-efficacy, hope, resiliency and trust was weak.

The implication is that while optimism is not the only essential aspect of psychological capital for entrepreneurs, it plays the most central role in the utilization of a business's resources. Highly optimistic entrepreneurs are likely to carefully allocate resources appropriately in a manner that increases the likelihood of higher returns. This implies that the entrepreneur has the ability to assess risks carefully and invest in the most viable opportunities. When this dispositional optimism is high, it generates action, resilience, confidence and commitment, even in challenging situations (Hmieleski and Baron 2009; Storey 2010; Trevelyan 2008). An optimistic entrepreneur, like a gambler, takes a

calculated risk to invest carefully and becomes fully engaged in the venture to achieve the expected ‘big win,’ as Storey (2011) calls it.

Among the four aspects that do not significantly moderate the relationship between startup capital and entrepreneurial success, self-efficacy had a greater moderation effect compared with resiliency, hope and trust. A crucial facet of self-efficacy is the belief in one’s personal ability to attain a certain goal (Bandura 1977). Of the three forms of self-efficacy identified by Barbosa, Gerhardt, and Kickul (2007), managerial self-efficacy is the most important from the perspective of managing business resources. Entrepreneurs with high managerial self-efficacy have the ability to manage the resources owned by the business. This can be an important asset for enhancing entrepreneurial performance. Therefore, in some cases, self-efficacy can moderate the relationship between startup capital and entrepreneurial success.

Resiliency, hope and trust were found to not have a serious moderation effect on the relationship between startup capital and entrepreneurial success. The chief facet of resiliency is coping and adjusting to adversity or opportunities (Brandt, Gomes, and Boyanova 2011; Masten and Reed 2002). Entrepreneurs with high resiliency scores who are able to apply these attributes to resource management are likely to increase their chances of succeeding. Therefore, in some cases, resiliency can enhance the relationship between startup capital and entrepreneurial success. In comparison, the beta coefficients for hope and trust were negative. This finding implies that although the effect is insignificant, these two aspects can in some cases weaken the relationship between startup capital and entrepreneurial success. Hope is the aspect related to persistence in efforts to achieve goals (Luthans, Avolio, and Avey 2007); however, this persistence does not necessarily imply that an entrepreneur will use startup capital more appropriately. Similarly, being trusting does not mean that one is a good resource manager. On the contrary, trust can put entrepreneurs at risk of exploitation (Goel and Karri 2006; Zhao, Seibert, and Lumpkin 2010), which in some cases can negatively affect the relationship between startup capital and entrepreneurial success.

On the whole, psychological capital is an important resource for business success. This was confirmed by the findings on the association between these two variables. In addition, the findings of psychological capital’s moderation effect on startup capital and entrepreneurial success suggests that psychological capital plays a large role in how entrepreneurs use their startup resources and how they handle business matters. Importantly, positive thinking about their enterprises and the expectation of positive outcomes in particular lead entrepreneurs to devote sustained high levels of effort to running a business.

### ***The best predictor of entrepreneurial success among the two forms of capital***

This study further examined which of the two forms of capital – psychological or startup—best predicts entrepreneurial success. The results supported the proposition that psychological capital is a better predictor of entrepreneurial success. Although the two forms of capital were both statistically significant predictors, psychological capital had a highly superior beta coefficient. The implication is that it is more advantageous to have a higher amount of psychological capital than to have high startup capital. Entrepreneurs should therefore always seek to boost their levels of psychological capital to increase their chances of success.

Earlier research has paid little attention to the differences between the two forms of capital in predicting entrepreneurial performance. However, each type of capital

plays a distinct and vital role. Financial resources and other aspects of startup capital are instrumental in starting business operations (Gartner 1985). The amount of resources affects the level of investment and other operational issues at the nascent stage. While higher amounts of startup capital can facilitate smooth beginnings and consequently facilitate a long-term success, this is not true in all cases. It should be noted that entrepreneurs' psychological states affect their decisions and behaviors, including how they handle opportunities and challenges, work with others and appropriate available resources. It is easier to handle each task when there are adequate resources. Importantly, however, it is psychological capital that enables entrepreneur to appropriately address both the stressful and joyful moments of the businesses, hence increasing the likelihood of success.

### **Conclusions**

The study results suggest that dimensions of psychological capital and entrepreneurial success are significantly and positively related, although the relationship is weak for financial aspects of success. Therefore, high psychological capital increases the probability of enterprises surviving for longer period of time and employing more workers and the likelihood that the entrepreneur will be satisfied with the state of business. However, researchers and practitioners need to be careful to avoid speaking of psychological capital as a broad construct. The contribution of each dimension of psychological capital is somewhat different. Our study shows that only the hope, optimism and trust dimensions relate significantly to entrepreneurial success. Nonetheless, a high level of resiliency increases the chances of financial success and the entrepreneur's satisfaction, while high self-efficacy increases the chances of the enterprise surviving for a longer time.

The study also sheds light on the complex relationship between startup capital, psychological attributes and entrepreneurial success. Among the five factors of psychological capital, optimism tends to be the most important contributor to entrepreneurial success. Individuals with high startup capital and a high level of optimism have better chances of entrepreneurial success. While success in entrepreneurship may depend on several factors, it is clear from this study that individuals with high startup capital are more likely to succeed in entrepreneurship. However, those with a high amount of psychological capital have better chances of success, and the odds of success are even higher when one has both high startup capital and a high level of optimism.

### **Limitations**

Sampling was performed using nonrandom methods, which poses challenges for a fair representation of the study population. In addition, the sample was drawn from two central business districts. This population of entrepreneurs may not be a good representation of all entrepreneurs across the country. This potential lack of representativeness could negatively affect the reliability of the results and therefore limit their applicability. A confirmatory study is needed to increase confidence in the results.

The scales used to measure the variables required self-report or self-rating by the respondents. Some respondents may have overemphasized their positive attributes,

particularly on the measures of psychological capital and business success. This overemphasis could have affected the validity and reliability of the results.

### **Practical implications and directions for future research**

Psychological capital includes the psychological attributes that predispose individuals toward entrepreneurial success or failure. It is therefore important to incorporate psychological testing into micro-entrepreneurship support programs. Financial entities focus on collateral when determining an individual's ability to pay back a loan; the government offers financial support to groups of individuals without paying attention to their ability to use the funds for the intended purpose; and non-governmental organizations tend to use being underprivileged as the basic requirement for business support. All of these criteria ignore the value of psychological states in entrepreneurship. This study supports Patel and Thatcher (2014) findings that individual attributes are important to entering and persistence in entrepreneurship. We therefore recommended that entities involved in promoting entrepreneurship include psychological testing in their selection criteria, and that such testing should also be included in entrepreneurial support programs, given that most of these aspects of psychological capital can be learned. It would also be helpful for governments to include provisions regarding these issues in their entrepreneurship policies.

The influence of psychological capital on entrepreneurial success and the interaction effects of psychological capital with startup capital have implications for career counseling, guidance and training. Entrepreneurship is a challenging vocational role that involves difficult tasks and difficult situations and requires individuals to make important decisions on a daily basis. The results of this study suggest that career counselors and trainers should focus on improving entrepreneurs' psychological capital, particularly the aspects of hope and optimism. However, the other aspects of psychological capital (self-efficacy, resiliency and trust) should not necessarily be ignored. Similarly, entrepreneurs should be encouraged to seek opportunities to strengthen their positive psychological characteristics. Psychologists could organize seminars and exercises specifically for micro- and prospecting entrepreneurs aimed at enhancing their psychological capital.

Although the study provides insightful findings on the role of psychological capital in the entrepreneurial process, a number of research implications must be considered. First, there are no globally agreed-upon indicators of entrepreneurial success. Future research should focus on developing widely acceptable inventories for measuring entrepreneurial success. A similar challenge arises when measuring startup capital. There is a need to develop instruments that measure all aspects of startup capital rather than overemphasizing the financial aspect. This is especially important for research on micro-entrepreneurs. Second, the study was confined to micro-entrepreneurship in the context of a less-developed country. The replication of this study in different economic contexts and with large-scale entrepreneurs could make a valuable contribution to entrepreneurship psychology. Finally, we suggest that future research should also investigate the influence of the source of capital on the startup capital–psychological capital–entrepreneurial success relationships. In less-developed economies, micro-entrepreneurs often use micro-credit to finance startups, which may have implications for success.

### **Disclosure statement**

No potential conflict of interest was reported by the authors.

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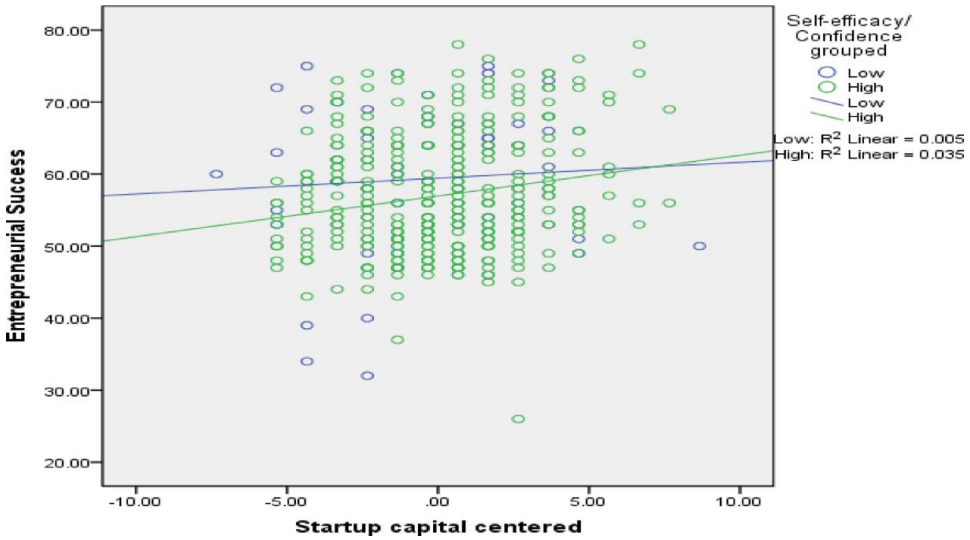
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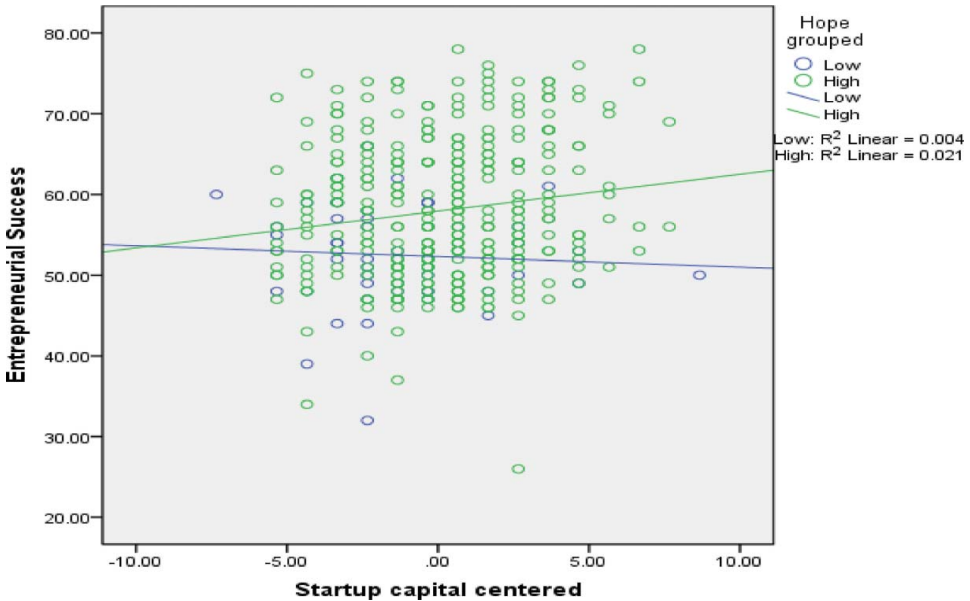
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### Appendix 1. Scatter plots for moderating effect of components of psychological capital

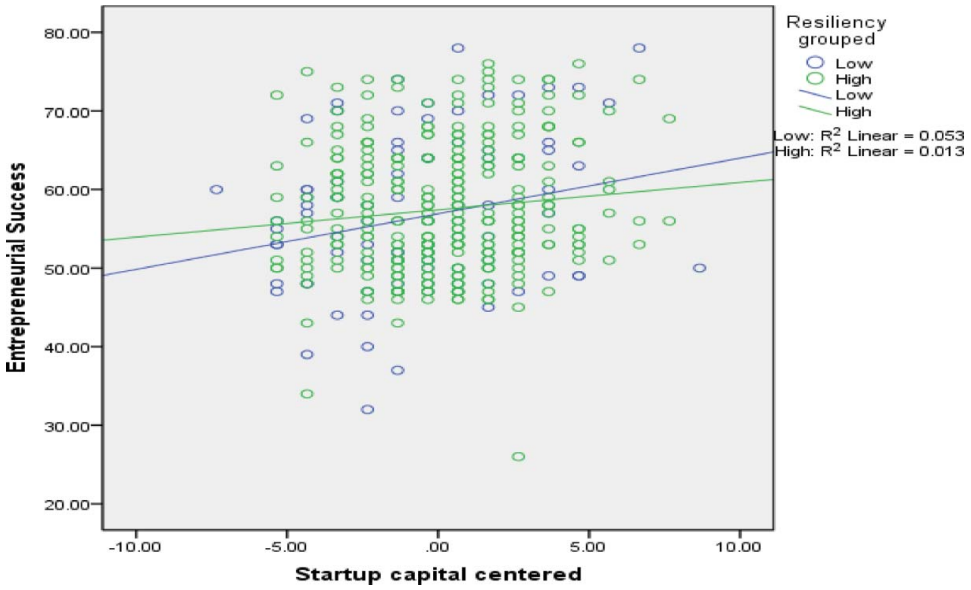
Scatterplot for the moderation effect of self-efficacy on the startup capital–entrepreneurial success relationship.



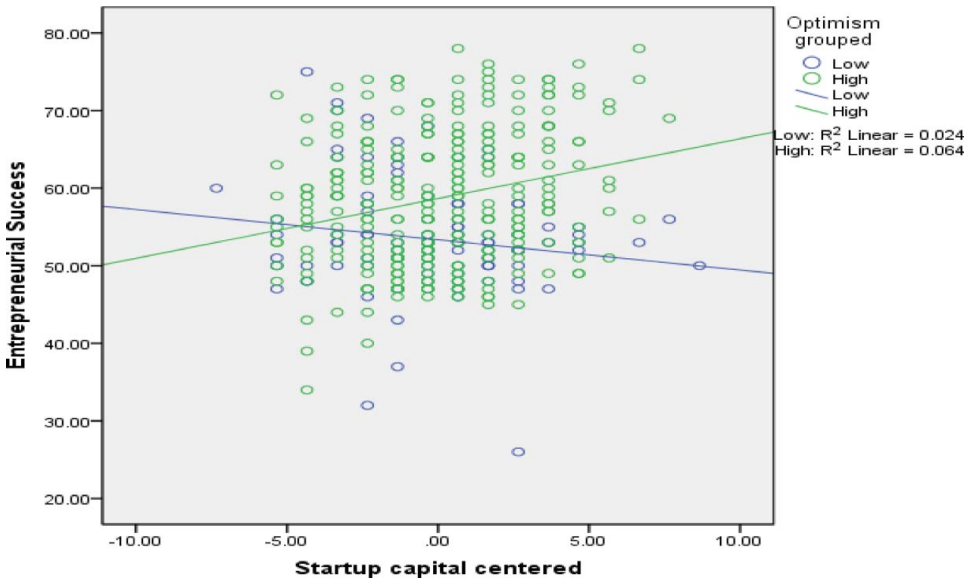
Scatterplot for moderation effect of hope on the startup capital–entrepreneurial success relationship.



Scatterplot for moderation effect of resiliency on the startup capital–entrepreneurial success relationship.



Scatterplot for moderation effect of optimism on the startup capital–entrepreneurial success relationship.



Scatterplot for moderation effect of trust on the startup capital–entrepreneurial success relationship.

