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Can personal initiative training improve small business success? A longitudinal South African evaluation study

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Abstract
High levels of personal initiative will be required to unlock the potential offered by the many untapped resources in Africa in terms of business opportunities. Significant resources are ploughed into the development of the small business sector by governments in Africa, particularly in South Africa. However, there is little evidence that these efforts are sufficiently effective to produce the desired results. Two issues are ad- dressed in this article: (a) whether or not enhancing the personal initiative of owner-managers improves the performance of small businesses, and (b) the moderation of the content and effectiveness of a short training intervention by means of a longitudinal evaluation study, including a control group. The findings show an increase in the training group's business activities and performance, and also identify the varied contributions of the components of the training.

Introduction

Personal initiative (PI) is characterized by a self-starting, proactive (long-term) approach and persistence in overcoming difficulties (Frese and Fay, 2001). This article reports on a study of a training intervention in the Western Cape province in South Africa to show that increasing the PI of owners or managers of firms leads to improved firm performance. The article contributes to an evidence-based management approach (Rousseau, 2006) and provides evidence that changes in PI lead to better management approaches to entrepreneurship. Evidence-based management is needed to provide empirical evidence for the usefulness of a particular management approach (Reay *et al*, 2009). It is believed that interventions provide support for such an approach, which would be useful, especially in the case of South Africa.

The study, a longitudinal research project, was carried out to assess the effect of an intervention in the form of a short personal initiative training programme for owners or managers on the performance of their small businesses, as well as to validate the contents of the modular training programme. A non-randomized training group and control group were incorporated in the study to control for variations in the business environment.

The remainder of the article is arranged as follows. The next section provides a background and frame of reference for small business and entrepreneurship as well as entrepreneurial training needs for the South African context. The subsequent section

explains the theoretical framework of the training programme components: namely personal initiative, innovation, proactivity, proactive goal setting, proactive planning, time management, overcoming and action training, followed by the methodology, the results and discussion. The final section is the conclusion, which comments on strengths and limitations and makes recommendations on the study.

Background

South Africa, a member state of the Brazil, Russia, India, China and South Africa (BRICS) economic grouping, is relatively on a par with its sister BRICS nations in terms of the dimension 'Capacity for innovation', according to the Global Competitiveness Report (World Economic Forum, 2012). The potential contribution of South Africa to the BRICS economic grouping lies in its rich mineral resources, availability of financial services and robust banking system. South Africa rates relatively highly on these dimensions as well as on related professional services (World Economic Forum, 2012), which are indicative of good infrastructure and say much for its large industries. The focus of this study, however, is on small business, and to this end a brief overview will be given of the small business sector.

In 2007, South Africa had 2.4 million registered small businesses, a relatively small number in comparison to Brazil with 16 million and India with 26.1 million. However, the three economies also have relatively large informal businesses: 1.4 million, 10.4 million and 24.6 million for South Africa, Brazil and India respectively (Timm, 2011). During the period 2000 to 2012, 1.96 million Closed Corporations (CCs)[1] were registered and over the same period, 1.56 million CCs either deregistered or liquidated,[2] giving a net contribution to the small business sector of around 400,000 small businesses[3] (Companies and Intellectual Property Commission, 2013).

Timm (2011) further postulates that South Africa can learn from BRICS sister economies and proposes the following key learning points: (1) the development of a national entrepreneurial vision supported by the Presidency, (2) building platforms to encourage public–private forums, (3) developing simplified government support structures, (4) instituting effective mechanisms to assess progress, and (5) capacitating government support agencies.

In 1995, the democratically elected South African government placed the small business sector in the spotlight when it published 'A white paper on a national strategy for the development and promotion of small businesses' (Department of Trade and Industry, 1995). Development of the small business sector was identified as vital for job creation and for bringing equity to disenfranchised communities by facilitating participation in the formal economy. Even though many small business support agencies were subsequently created, it is ironic that today large numbers of emerging and established small enterprises are not aware of the existence of governmental support institutions (Orford *et al*, 2004).

Subsequently, training and research in the small business sector intensified (Rogerson, 2008). Key findings from these studies were that business failure stems from lack of management skills and financial knowledge (Radipere and Van Scheers, 2005); business

owners are responsible for the acquisition of skills and therefore need to learn how to learn (Unger *et al*, 2009); training programmes can address issues of small businesses such as business management, problem solving and personal management; and programmes must take into consideration the context of the small business, such as time constraints (Perks and Smith, 2008). The administration of support programmes must be streamlined; monitoring and evaluation of small business support programmes is important to assess their effectiveness; if data and statistics on small businesses are not consolidated, it is difficult to develop a compre- hensive understanding of the small business sector for implementation of effective programmes; and access to finance is a major challenge for small businesses (National Credit Regulator, 2011).

The Global Entrepreneurship Monitor (GEM) over time found that South Africa had consistently had relatively low rates of entrepreneurial activity (Turton and Herrington, 2012) and ranked lowest in the Total Entrepreneurial Activity (TEA) of the developing nations, with a score of 6.54; India was second, with a score of 17.88; and Brazil had a score of 13.53 (Foxcroft *et al*, 2002), and in 2012, South Africa's percentage TEA in the adult population was 7%, with China at 13% and Brazil at 16% (Turton and Herrington, 2012). 'Entrepreneurial activity' refers to adults involved and having a share in start-up firms (Driver *et al*, 2001). GEM identified education and training as one of the primary factors influencing entrepreneurial activity (Foxcroft *et al*, 2002). It is recognized as a key to increasing productivity levels and consequently to profitability in order to generate opportunities in efficiency-driven economies such as South Africa (Herrington *et al*, 2008). Training should be targeted at increasing entrepreneurial activity. Primary inhibiting factors, however, remain access to finance, education and training, and government policies (Foxcroft *et al*, 2002; Herrington *et al*, 2008), bearing in mind that 88% of early-stage entrepreneurs are non-white, (Turton and Herrington, 2012).

The need for entrepreneurship training was recognized in the early 1990s (Ladzani and Van Vuuren, 2002). However, very little, if any, entrepreneurship training is being offered and confusion exists between entrepreneurship training and small business training (Nieman, 2000). 'Entrepreneurship' refers to a process in which entrepreneurs build companies on innovative ideas by harnessing the necessary resources and developing their companies into high-growth businesses (Timmons and Spinelli, 2007). Entrepreneurship training should obviously be training that facilitates entrepreneurship, but training programmes for small business in South Africa are primarily technical and conventionally business-orientated (Ladzani and Van Vuuren, 2002). Small business training is primarily internally focused, imparting generic management skills such as marketing, finance, record-keeping, human relations and industrial relations, not developing or growing businesses. A possible contributor to this state of affairs could be that traditionally small business research focuses only on the firm, whereas it should also focus on the entrepreneur, the entrepreneurial firm and the external environment (Kiggundu, 2002). Further- more, training efforts should be monitored to identify those that are effective, successful and appropriate (Nieman, 2000; Ladzani and Van Vuuren, 2002).

Entrepreneurial training needs of small businesses

Entrepreneurial training nurtures the skills that enhance entrepreneurial performance; a skill is knowledge demonstrated in action (Nieman, 2000). The training needs of entrepreneurs are seldom addressed by service providers (Foxcroft *et al*, 2002). Factors that hamper training are: cost of training, ignorance and market forces (Storey, 2004). Various studies have shown that more than 70% of informal business owners would attend training courses if they were free, and 78% of informal business owners were prepared to pay a small fee (Foxcroft *et al*, 2002). Only 32% of a sample of township entrepreneurs were prepared to pay for training, primarily because the others could not afford the cost (Kew and Macquet, 2002). The business owners did not perceive how their businesses would benefit from training their managers.

There are other reasons for the dearth of entrepreneurial training. Small businesses do not have the internal labour pool that large businesses have. In a small or microbusiness, a single employee can constitute a large part of the labour force, making attendance at training courses difficult. Generic training may also increase the risk of managers seeking external opportunities. Where labour turnover is low, general training is high (Storey, 2002). Small business owners are also reluctant to leave their businesses for prolonged periods of time for training, primarily out of fear of missing out on income-generating opportunities (Kew and Macquet, 2002).

Theoretical framework

Figure 1 presents the theoretical framework of the PI training intervention. PI is related to innovativeness, proactive goal setting, proactive planning, time manage- ment and overcoming barriers (including self-regulation of emotions). A brief discussion of the training components in the study follows.

Personal initiative and owners' success

PI is arguably at the core of what is demanded of successful business owners. PI is behaviour character- ized by self-starting, proactivity and overcoming difficulties (Frese *et al*, 1996). Self-starting implies that owners start an action without being told (Frese and Fay, 2001). Empirically, PI has been shown as being significantly related to economic success (Koop *et al*, 2000; Krauss *et al*, 2005).

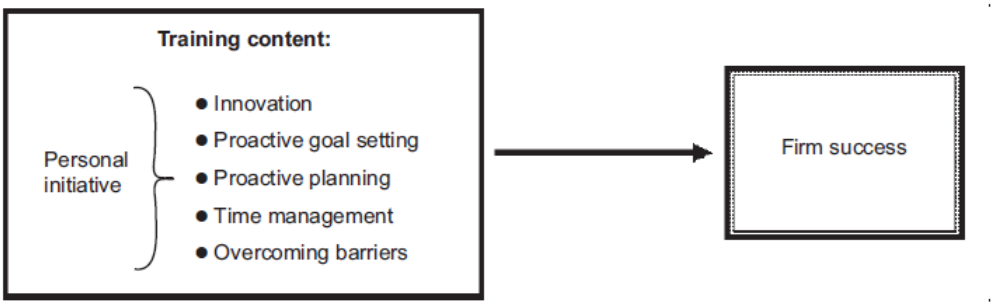

Figure 1. Theoretical framework of the PI training intervention.

Innovation

Innovation is the introduction of products, processes or procedures that are new to the context. It consists of at least two components – a creative idea and the implementation of that idea (West, 2002). PI is intertwined with innovation because self-starting implies doing something different, even new, while 'overcoming barriers' relates to an implementation phase for new things (Frese *et al*, 1997, 1999).

Highly competitive environments require innovations. Owners can reduce high competition by developing market niches, often new niches. Innovation, through its proactive character, plays a key role in facing future markets (Hamel and Prahalad, 1994) and detecting and exploiting opportunities (Shane, 2003). Empirical evidence supports the importance of innovativeness for business success (Rosenbusch *et al*, 2011). De Winne and Sels (2010) found a positive relationship between skilled people and innovation, and the study by Klyver *et al* (2012) showed that having ties with entrepreneurs increased the probability of starting a business as well as positively influencing the innovativeness of the start-up. Furthermore, Hult *et al* (2004) found learning orientation to be a significant antecedent to innovativeness. Thus, important attributes for innovators at the indi- vidual level would include education, learning orientation and entrepreneurial ties, and since innovators often deal with new ideas and consequently uncertainty, they also need tolerance of ambiguity (Bhidé, 2000). The training component 'innovation' is intended to encourage innovativeness amongst the participants in the training. The generation of creative ideas can be affected by training (DeTienne and Chandler, 2004).

Proactivity

Proactivity implies a long-term focus (Frese and Fay, 2001) which allows owners to recognize and exploit future opportunities; preparing for opportunities implies that one assembles resources now in order to be able to make use of future opportunities quickly (Hamel and Prahalad, 1994; Dimov, 2007). Recognizing and exploiting opportunities has been described as the very essence of entrepreneurship (Shane and Venkataraman, 2000). Similarly with problems, owners should prepare to deal with future problems now rather than later.

Proactiveness has consistently been linked to good business performance (Lumpkin and Dess, 1996; Rauch *et al*, 2009). Moreover, there is meta-analytic evidence that PI is related to employee performance (Tornau and Frese, 2010). Therefore it makes sense to put PI at the centre of psychological training for business owners.

Proactive goal setting

Specific and challenging goals increase performance in organizational settings (Locke and Latham, 1990a). Owners who aim for high and specific goals and are able to communicate these goals are more successful than owners with low and unspecific goals (Bird and Jelinek, 1988). Goal setting needs to be justified and one way of doing this is to develop and communicate a vision for the firm. Smith *et al* (2001) found significant causal relationships for visions and communication of visions with venture growth.

The concept of PI emphasizes the importance of self- starting goals, long-term goals and thinking about long-term problems and opportunities that need to be translated into goal

setting (Frese and Fay, 2001). Combining PI with goal-setting literature (Locke and Latham, 1990b) is useful. Goal setting and PI theory posit that self-efficacy is one of the prerequisites of challenging goals (Speier and Frese, 1997). Self-efficacy is a belief in one's ability to overcome obstacles; it is central to self-regulation and affects goal setting (Bandura, 1991). Goals/visions maintain perspective and focus. People with low levels of self-efficacy will more easily be discouraged in overcoming difficulties (Bandura, 1991).

The training module of proactive goal setting focused on developing specific, concrete, measurable, time- bound, realistic and challenging short-term and long-term goals. Using these principles of goal setting was intended to increase the participants' commitment to goals generated during training.

Proactive planning

PI is proactive and requires proactive planning that relates to future problems and opportunities (Frese *et al*, 2007). Proactive planning amplifies persistence or decreases distraction (Diefendorff and Lord, 2004) and leads to better knowledge of contingency conditions and time allocation to tasks, as well as a clearer focus on priorities (Tripoli, 1998). Planning helps with the inherent insecurities of being a business owner by making good use of scarce resources (Rauch and Frese, 2000). Another way to think about efficient deployment of scarce resources is through the concept of effectuation (Sarasvathy, 2001), which means optimizing the potential of limited resources when utilizing opportunities. Planning by business owners implies proactivity because they have no superior to determine what and how to plan. Proactive planning has proved to be highly effective for business owners, both in Africa and in Europe (Van Gelderen *et al*, 2000; Frese *et al*, 2002, 2007).

Planning should be detailed enough for one to think about important issues, contingencies and potential problems and to create 'plan Bs' to overcome such problems (Mumford *et al*, 2002; Honig, 2004). Back-up plans and a flexible use of planning are important.

The training module on 'Planning' stressed the importance of planning for business success and different types of planning strategies, and helped participants generate a plan for their own business as a project (Little, 1983). To develop a good long-term business project, the participants were asked to do a rudimentary 'strengths, weaknesses, opportunities and threats' (SWOT) analysis of their business (Jackson *et al*, 2003). The training emphasized that planning should be done every day, should not be too detailed, and required updates and changes, for example as business conditions changed.

Time management

Time management, an aspect of proactive planning, concerns making the best use of available time. Using time management, owners actively identified important tasks, set priorities and planned their daily business accordingly. Since time management emphasizes 'important' issues over 'urgent' ones (Adebisi, 2013), there is a proactive component in time management. The training component 'Time management' prioritized the use of the Pareto principle to differentiate customers into A, B and C categories, putting more effort into serving the best A-customers, therefore maximizing profitability

for the firm. Studies on the relationship between time management and its correlates show equivocal results (Macan, 1996), but Adebisi (2013) has found a direct link between time management and firm performance, and maintains that time management reduces failure.

Overcoming barriers

Overcoming barriers, or persistence, which is usually necessary to reach one's goal, is conceptualized as an important part of entrepreneurship (Schumpeter, 1935). Whenever new ideas are pursued, adversity needs to be overcome, especially under resource constraints (Kodithuwakku and Rosa, 2002). Adversity often appears in the form of technical, bureaucratic, organizational or customer-related barriers. In spite of these barriers, business owners need to pursue their goals persistently.

The need to overcome barriers often leads to frustration. Management of emotions is important; it allows owners to continue achieving their goals even though they are very frustrated. The idea is to assist the owners with a rational approach so as to maintain problem- orientated coping in difficult situations. The coping concept of Lazarus and Folkman (1984) and the rational emotive therapy approach of Ellis (1962) were used to develop principles of action that helped the owners deal with frustration and failure.

Action training

An action training approach was adopted for the training (Ford *et al*, 1997; Frese *et al*, 2003) and included components of behaviour modelling (Latham and Saari, 1979) through giving examples of successful and less successful owners. The components of action training (Frese and Zapf, 1994; Frese *et al*, 2003) aim to develop an action-orientated mental model in order to: develop routines of the newly acquired behaviours; learn by doing; motivate by experiencing; provide feedback in training; and support transfer. The training programme aims at activating people to work on issues immediately relevant for their business and to transfer training content to their everyday activities.

Methodology

Study design

A non-randomized control group pre-test/post-test design was used to control for effects of maturation, history and testing. Measurements of the training group (T1) as well as the control group were taken beforehand, and directly after the training (T2, only the training group) and five to seven months later (T3, both groups) and again 24 months after the training (T4, both groups).

Sample

The participants were recruited with the help of three organizations supporting small, micro- and medium- sized businesses in the Western Cape region and by a random walk through industrial areas and asking owners to participate. The organizations supplied random samples of members to contact by telephone. The criteria[4] for participation were that the owners had to be:

1. all non-white South Africans;
2. currently owners of a business and responsible for managing the firm on a day-to-day basis;
3. operating for at least one year; and
4. employing at least one person.

A total of 84 small-scale business owners in the Cape Town region were interviewed at their premises (T1, before the training). All of them were invited to participate in the training. Of these, 27 business owners chose to participate (three of whom missed half a day because of unexpected business problems). The cost for participating was ZAR150 (about US$20).

Of the business owners interviewed who chose not to pate in the training, 30 agreed to take part in the post-training evaluation and thus formed the control group. At T3, five to seven months after the training, an interview was carried out at the business premises (12 of the control group and 11 of the training group) or a questionnaire was used (18 of the control group and 16 of the training group). The questionnaire contained the same questions as the interview. At T4, two years after the training, long-term training effects were evaluated with 16 training participants and 15 members of the control group. The average age of participants was 40 years (SD = 7.52) in the training group, ranging from 25 to 49 years (control group M = 38, SD = 8.48, range from 21 to 51). Females comprised 15% of the training group and 10% of the control group. Participants came from all lines of business: for example, information technology, clothing manufacture, construction and installation, retail/trade, and consulting. The ethnicity of the owners in the training group was 15% black and 85% coloured (terms that are still used in South Africa, although slowly becoming politically incorrect) and 3% and 97% respectively in the control group. In the training group, 70% had completed 12 or more years of education (control group, 73%). For the training group, the average age of the business was nine years (SD = 9), with a range from 1 to 48 years (control group, M = 6, SD = 9, range 1 to 13). The average number of employ- ees for the training group was 11 (SD = 12.4), with a range from 1 to 48 (control group, M = 6, SD = 5.2, range 1 to 20).

Training and control group demographics

Background data were used to compare the training and control groups, and as controls where necessary. Variables were: gender, age, ethnicity, type of industry, sector (formal versus informal), age of business, number of employees, starting capital, experience, reception of vocational training prior to the PI training, and years of education. Interpersonal difference variables were: external and internal locus of control, and self-efficacy (Rauch and Frese, 2000). External and internal loci of control were measured at T1 using a 6-point Likert scale (Levenson, 1974). Reliability of the external locus of control was adequate (□□= 0.80), but the alpha of the internal locus of control was low. Therefore we selected two items of internal locus of control that showed a high correlation (r = 0.55, p < 0.01). Self-efficacy (in its general form) was ascertained using a 4-point Likert scale (Schwarzer and Jerusalem, 1995) (□□= 0.86).

Data collection

The data were collected using questionnaires and structured interviews, and generally showed good validity. The answers to the interview questions were written down in a protocol and later rated by the inter- viewer and a second rater on a 5-point Likert scale. Inter-rater agreements were calculated with the two-way mixed effect model (people effect, random; measure effect, fixed) of the intra-class correlation coefficient (Fleiss and Shrout, 1977). Inter-rater agreements were generally good and ranged from r = 0.83 to 1.0. Subsequent calculations were done with the mean of the two raters. Table 1 presents the measures with reliabilities, sample sizes, means, standard deviations and inter-rater agreements. All scales were divided by the number of items.

Training effectiveness

The four-level approach suggested by Kirkpatrick (1959) and Latham and Saari (1979) was used, although it had been criticized (Alliger *et al*, 1997). The four- level concept is still used often – at least partially (Arthur *et al*, 2003) and provides a system for evaluating training effectiveness with reaction, learning, behaviour- based and success measures. The last level of organizational success that is infrequently used in training research (Warr and Allen, 1999) was used, and it can be well modelled in the area of entrepreneurship. Reaction measures ascertained satisfaction with the training and the transfer motivation of the participants (measured directly after the training, at T2). Tests were used (at T1 and T3) as learning measures of knowledge. Behaviour-based measures were indirectly obtained through exercises during the pre-training interview (T1) and by means of an interview or a questionnaire at T3. Success measures were obtained at T4.

Level 1: Reaction. A 4-item satisfaction scale on content, delivery, exercises and overall satisfaction with the training was developed for this study (Kunin faces ranging from –3 to +3). Wanous *et al* (1997) found the Kunin scale (1955) to be the best measure of overall job satisfaction (☐☐= 0.75). To assess whether satisfaction with the training was stable over time, the question 'To what degree would you recommend this training to your colleagues?' was asked at T2 and at T3. Directly after the training, participants were asked how much they were motivated to transfer what they had learned in the training (21 items on a 5-point Likert scale, from 'Not at all likely' to 'Very likely'). The items covered the different training contents: for example, 'To what extent do you think you will feel more committed to your goals than you did before the training?' (☐☐= 0.94). Qualitative statements were sought – directly after the training (T2), training participants were asked for written comments. Statements on the training and the implementation of planned projects were also obtained during calls at T3.

Table 1. Measures, reliabilities or item intercorrelations, number of participants, number of items, means, standard deviations and inter-rater reliabilities.

Measure	Time	Internal consistency/ Item inter-correlation	Number of participants			Number of items	M	SD	Inter-rater reliability
			TG	*CG*	*Total*				*ICC*
Background variables									
Number of employees	T1		27	30	57		8.09	9.49	
External locus of control	T1	α = 0.80	27	30	57	7	2.45	1.16	
Internal locus of control	T1	r = 0.55**	27	30	57	2	5.96	0.93	
Self-efficacy	T1	α = 0.86	27	30	57	10	3.42	0.47	
Reaction measures									
Training satisfaction	T2	α = 0.75	27		27	4	2.90	0.23	
Would recommend training	T2		27		27	1	4.93	0.27	
Would recommend training	T3		16		16	1	4.94	0.25	
Transfer motivation	T2	α = 0.94	27		27	8	4.83	0.26	
Learning measures									
Goal-setting knowledge	T1		27	30	57	6	7.91	1.84	
Goal-setting knowledge	T3		27	30	57	6	8.56	1.82	
Time management	T1	α = 0.75	27	30	57	4	3.57	0.95	
Time management	T3	α = 0.70	16	18	34	4	3.93	0.85	
Behaviour-based measures									
Implementation personal initiative	T3	α = 0.88	16		16	8	4.37	0.62	
Implementation innovation	T3	α = 0.85	16		16	7	4.32	0.59	
Implementation goal setting and planning	T3	α = 0.67	16		16	4	4.53	0.46	
Implementation time management	T3	r = 0.83**	16		16	2	4.25	0.88	
Personal initiative	T1	α = 0.74	27	30	57	8	0.29	0.59	r_{tt} = 0.83 – 1.00
Personal initiative	T3	α = 0.90	27	30	57	8	0.08	0.79	r_{tt} = 0.89 – 1.00
Innovation	T1	α = 0.87	27	30	57	4	2.07	0.82	r_{tt} = 0.91 – 0.94
Innovation	T3	α = 0.76	27	30	57	4	2.37	0.67	r_{tt} = 0.89 – 0.93
Proactive goal setting & planning	T1	α = 0.91	27	30	57	14	2.54	0.75	r_{tt} = 0.92 – 0.97
Proactive goal setting & planning	T3	α = 0.93	16	18	34	7	3.04	0.97	r_{tt} = 0.91 – 0.98
Success measure									
Sales level (in million Rand)	T1		27	30	57	1	1.24	1.65	
Sales level (in million Rand)	T4		16	15	31	1	2.08	2.97	

Level 2: Learning.

Knowledge tests were developed for proactive goal setting and time management. A goal-setting knowledge test (six items) determined whether participants acquired and retained knowledge on goal setting (goals being specific, concrete, measurable, time- bound, realistic and challenging), for example: 'Which of the following is a concrete goal?' A: 'Being well- known in the city', B: 'Improving the quality of service', C: 'Winning five new customers next month', or D: 'Higher customer satisfaction'. Because the knowledge test was constructed to measure heterogeneous aspects of scientific goal-setting results, we did not compute a coefficient alpha. The time management scale consisted of five items (5-point answer scale), for example: 'Before every working day I reserve some time to prepare and plan my work' (T1 ☐☐= 0.75; T3 ☐☐= 0.70) (Macan, 1996).

Level 3: Behaviour-based.

The implementation questionnaire asked the training participants at T3 how much they had applied training content to their day-to-day work (5-point Likert scale). This questionnaire included eight items measuring PI implementation, for example:

'To what extent have you carried out more changes after the training than you did before?' (☐☐= 0.88). Innovation implementation included seven items, for example: 'To what extent have you used more innovative ways to produce your product or to offer your service after the training than you did before?' (☐☐= 0.87). Goal setting and planning implementation included four items on goal setting and planning, for example: 'To what

extent have you set more specific goals than you did before?' (☐☐= 0.67). Time management implementation was a 2- item measure, for example: 'To what extent have you analysed your tasks more according to A/B/C tasks after the training than you did before?' (r = 0.83, p < 0.01 between the items).

Level 4: Success.

To obtain long-term changes in business success, the sales level was asked for in ZAR at T1 and T4 (two years after training). Since participants did not keep exact figures, we used a proxy adapted from McPherson (1998). The participants were asked for the number of months with low, average and high sales and the sales level in low, average and high months. Their yearly sales levels were then calculated.

Personal initiative

PI was measured with the overcoming barriers method that has been shown to have good construct validity (Fay and Frese, 2001). A difficult business situation was presented, for example: 'Pretend you are out of money for supplies, what would you do?' The participants were asked to think of a way to overcome the difficulty. Each problem-solving answer was met by: 'Assume that this does not work, what else would you do?' The number of barriers overcome were recorded. Eight questions were divided into two sets of questions, which were counter- balanced across measurement waves. The responses during the overcoming barriers exercise were rated on a 5-point Likert scale concerning proactivity (was an active approach taken or were the problems delegated away?) and persistence (T1 ☐☐= 0.74; T3 ☐☐= 0.90).

Innovation.

The measure of innovation was based on an exercise of fictitious business situations, such as having expansion goals for the business, for example: 'Pretend you have a business making clothes. You would like to have 20 more customers by the end of the year'. Participants had to think of ways to achieve this goal. The number of ideas was rated as well as the creativity of the ideas. Again, two sets of situations were developed and counterbalanced. The scale included both the number of ideas and the rated creativity of ideas (T1 ☐☐= 0.87; T3 ☐☐= 0.76).

Proactive goal setting and planning.

For proactive goal setting and planning, a measurement technique developed by Frese *et al* (2000) was used. At T1, goal cards (each showing a business goal, for example: 'making new customers') were offered as stimulus material, and the participants were asked how they would go about achieving their two most important goal cards. The answers were written down and coded by two raters (5- point Likert scale) on the dimensions proactiveness and reactiveness, amount of planning, goal specificity, 'detailedness', realism of goal, and comprehensive planning strategy. At T3, a written form of this exercise was used. The participants were asked to tick the most important goal, to specify it and to write down how they were going to achieve it (T1 ☐☐= 0.91; T3 ☐☐= 0.93).

Results

Table 2 shows the means, standard deviations and intercorrelations. Since the training and control groups were non-randomly assigned, pre-training differences between the training (N = 27) and control group (N = 30) were first calculated on a number of background variables. Because the participation rate was lower over time, training (N = 16 at T3; N = 16 at T4) and control groups (N = 18 at T3; N = 15 at T4) were examined for background variables to see whether there were differences at later measurement points compared with their pre-training scores (using chi² tests for independent groups and analyses of variance – ANOVA). The training and control groups differed at T1 only in two variables: the number of employees, $F = 7.33$, $p < 0.01$, and external locus of control, $F = 8.62$, $p < 0.01$. These differences were also replicated at T3 and T4. Therefore, external locus of control and number of employees were controlled as covariates in all further (multivariate) analyses of covariance (MANCOVA, ANCOVAs). Since the numbers of participants were different at T1, T3 and T4, we computed a MANCOVA and ANCOVAs with repeated measures comparing T1 and T3, and a separate ANCOVA comparing sales at T1 and T4.

To test the overall effects of training, an overall MANCOVA was calculated for the following dependent variables measured at T1 and T3: goal-setting knowledge, PI, innovation, proactive goal setting and planning, and time management (with N = 16 training participants and N = 18 control groups). Results revealed significant effects for group x time (training/non-training x repeated measures) (Hotelling's T (0.60) = 9.64, $p < 0.01$, $\square^2 = 0.37$), for time (repeated meas- ures) (Hotelling's T (0.36) = 5.82, $p < 0.01$, $\square^2 = 0.26$) and for group (training/non-training) (Hotelling's T (0.71) = 11.43, $p < 0.01$, $\square^2 = 0.41$). Thus, training was effective overall in changing the experimental group more strongly than the control group (significant group x time effects).

Table 3 presents the results of the univariate ANCOVAs (again, these ANCOVAs should show significant interaction effects of group x time). There were significant interaction effects for the goal-setting knowledge test, the behaviour-based measures of PI, innovation, proactive goal setting and planning. Thus, goal-setting knowledge, PI, innovation, proactive planning and goal setting increased more strongly in the experimental than in the control group. There was no significant interaction effect for time management, showing that the training did not prove effective in improving time management.

Success measures

Business success in terms of sales at T4 showed a marginally significant interaction, indicating that training had a marginally significant effect on sales two years after the training ($F = 3.02$, $p = 0.09$, $\square^2 = 0.05$).

Mediation effect of personal initiative

To examine whether PI was responsible for the effects of the training, we compared the zero-order correlation of training with the dependent variables at T3 or T4 with the respective partial correlations.

Table 2. Number of participants, means, standard deviations and intercorrelations of the main study variables.

Variable	Time	N	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Training (1 = no, 2 = yes)	T1	57	1.53	0.50	1.00											
2. Gender (1 = male, 2 = female)	T1	57	1.12	0.33	0.07	1.00										
3. Number of employees	T1	57	8.09	9.53	0.25	0.04	1.00									
4. Internal locus of control	T1	57	5.16	0.93	–0.05	–0.04	0.15	1.00								
5. External locus of control	T1	57	2.45	1.17	–0.27	0.05	0.21	–0.10	1.00							
6. Self-efficacy	T1	57	3.42	0.47	0.12	–0.31	0.21	0.59**	–0.22	1.00						
7. Training satisfaction	T2	27	2.90	0.23	–	0.19	–0.11	0.43*	0.06	0.28	1.00					
8. Would recommend training	T2	27	4.93	0.27	–	0.12	0.08	0.43*	0.00	0.34	0.80**	1.00				
9. Would recommend training	T3	16	4.94	0.25	–	0.07	0.20	0.57*	–0.02	0.37	0.84**	1.00**	1.00			
10. Transfer motivation	T2	27	4.83	0.26	–	0.25	–0.01	0.30	0.19	0.13	0.62**	0.71**	0.78**	1.00		
11. Goal-setting knowledge	T1	57	7.91	1.84	0.24	–0.19	–0.03	–0.16	–0.23	–0.03	0.00	–0.08	0.08	–0.13	1.00	
12. Goal-setting knowledge	T3	57	8.56	1.82	0.70**	0.06	0.08	–0.14	–0.31*	–0.03	–0.22	–0.20	–0.12	–0.33	0.57**	1.00
13. Time management knowledge	T1	57	3.57	0.95	0.08	–0.27*	–0.10	0.46**	0.02	0.56**	0.15	0.11	–0.22	0.21	–0.07	–0.10
14. Time management knowledge	T3	34	3.93	0.85	0.31	0.01	0.10	0.23	0.10	0.17	–0.02	0.11	0.11	0.10	0.24	0.27
15. Implementation personal initiative	T3	16	4.37	0.62	–	0.22	0.29	0.43	0.02	0.33	0.45	0.48	0.48	0.26	–0.40	–0.39
16. Implementation innovation	T3	16	4.32	0.59	–	0.24	0.45	0.43	0.18	0.16	0.61*	0.67**	0.67**	0.44	–0.16	–0.38
17. Implementation proactive goal setting & planning	T3	16	4.53	0.46	–	0.27	0.30	0.35	–0.03	–0.08	0.27	0.31	0.31	0.22	–0.31	–0.48
18. Implementation time management	T3	16	4.25	0.88	–	0.23	0.15	–0.05	0.17	–0.30	0.12	0.08	0.08	–0.01	0.07	–0.26
19. Personal initiative	T1	57	0.29	0.59	–0.09	–0.12	–0.03	–0.14	–0.07	0.08	0.16	0.10	0.43	0.13	0.05	0.07
20. Personal initiative	T3	57	0.08	0.79	0.81**	0.05	0.24	–0.05	–0.20	0.07	–0.08	0.07	0.18	0.08	0.03	0.62**
21. Innovation	T1	57	2.07	0.82	0.05	–0.11	0.21	–0.10	–0.39**	0.06	–0.29	–0.07	–0.06	–0.37	0.25	0.28*
22. Innovation	T3	57	2.38	0.67	0.50**	–0.13	0.18	–0.10	–0.32*	0.01	–0.24	–0.08	–0.36	–0.39*	0.20	0.47**
23. Proactive goal setting & planning	T1	57	2.54	0.75	0.01	–0.18	0.29*	0.14	–0.39**	0.23	–0.15	0.00	0.01	–0.07	–0.00	0.12
24. Proactive goal setting & planning	T3	34	3.04	0.97	0.49**	–0.14	0.23	0.02	–0.39*	0.16	–0.09	0.23	0.23	0.24	0.21	0.57**
25. Sales level (million Rand)	T1	57	1,243t	1,647t	0.27*	–0.19	0.73**	0.01	–0.27*	0.08	–0.19	0.14	0.20	0.10	0.07	0.11
26. Sales level (million Rand)	T4	31	2,080t	2,967t	0.51**	–0.16	0.64**	–0.20	–0.48**	–0.04	–0.38	0.05	0.10	0.04	0.16	0.26

Variable	Time	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
13. Time management	T1	1.00														
14. Time management	T3	0.36*	1.00													
15. Implementation personal initiative	T3	–0.23	–0.03	1.00												
16. Implementation innovation	T3	–0.37	0.11	0.82**	1.00											
17. Implementation proactive goal setting & planning	T3	0.03	0.22	0.72**	0.69**	1.00										
18. Implementation time management	T3	–0.06	0.50*	0.46	0.48	0.68**	1.00									
19. Personal initiative	T1	0.00	–0.22	0.25	0.17	0.06	–0.09	1.00								
20. Personal initiative	T3	0.05	0.21	0.41	0.41	0.49	–0.01	0.22	1.00							
21. Innovation	T1	–0.21	–0.26	–0.25	–0.16	–0.20	–0.34	0.40**	0.23	1.00						
22. Innovation	T3	0.08	0.04	–0.29	–0.22	–0.05	0.13	0.17	0.52**	0.45**	1.00					
23. Proactive goal setting & planning	T1	0.25	0.05	–0.01	0.02	0.30	–0.02	0.17	0.19	0.37**	0.25	1.00				
24. Proactive goal setting & planning	T3	–0.12	0.03	0.15	0.18	0.06	–0.23	0.05	0.51**	0.49**	0.45**	0.35*	1.00			
25. Change in sales	T3	0.35*	0.67**	0.02	0.11	0.27	0.12	–0.00	0.27	–0.19	0.24	0.17	0.17			
26. Sales level	T1	–0.12	0.07	–0.03	0.15	0.04	–0.09	0.06	0.31*	0.34*	0.21	0.30*	0.32	1.00		
27. Sales level	T4	–0.20	0.05	–0.05	0.12	0.07	–0.06	0.06	0.56**	0.50**	0.41*	0.37*	0.47*	0.79**	1.00	

Note: Only training group (N = 27) and control group (N = 30) are included in the calculations; dashes indicate no data available because the control group did not respond to these measures; ** Correlation is significant at the 0.01 level (2-tailed); * Correlation significant at the 0.05 level (2-tailed).

Table 3. Analysis of covariance analyses results (training/non-training x repeated measures interaction), means and standard deviations of training and control group.

Measure	Time	Group	N	Before training M	Before training SD	After training M	After training SD	df	F	p	η^2
Learning measures											
Goal-setting knowledge	T1–T3	TG	27	8.37	2.22	9.89	1.58	1	8.00	<0.01	0.07
		CG	30	7.50	1.33	7.37	1.03				
Time management knowledge	T1–T3	TG	16	3.52	0.58	4.20	0.50	1	1.77	0.19	0.03
		CG	18	3.58	1.21	3.68	1.03				
Behaviour-based measures											
Personal initiative	T1–T3	TG	27	0.23	0.60	0.75	0.53	1	45.84	<0.01	0.30
		CG	30	0.34	0.59	–0.52	0.41				
Innovation	T1–T3	TG	27	2.11	0.78	2.72	0.53	1	5.01	<0.01	0.04
		CG	30	2.07	0.86	2.07	0.62				
Proactive goal setting & planning	T1–T3	TG	16	2.57	0.79	3.54	0.97	1	4.91	<0.05	0.07
		CG	18	2.48	0.87	2.60	0.74				
Success measure											
Sales level (in million Rand)	T1–T4	TG	16	2.13	2.43	3.53	3.56	1	3.02	0.09	0.05
		CG	15	0.61	0.72	0.54	0.56				

Note: Number of employees prior to training and external locus of control were included as covariates in all ANCOVAs.

The latter held PI (T3) constant (the first figure is the zero correlation of training with the dependent variable; the second figure is the partial correlation of training with the dependent variables, controlling for PI at T3; ns = non-significant): goal-setting knowledge (T3) (zero-order correlation = 0.70, $p < 0.01$; partial correlation holding PI constant = 0.45, $p < 0.01$), time management knowledge (T3) (0.31, ns; 0.25, ns), innovation (T3) (0.50, $p < 0.01$, 0.15, ns), proactive goal setting and planning (T3) (0.49, $p < 0.01$; 0.15, ns) and sales (T4) (0.51, $p < 0.01$; 0.12, ns) (non-significant increase, Levene test: F = 3.41, $p < 0.10$). With the exception of time management knowledge, all the correlations of training with the dependent variables were significant. The partial correlations were reduced and mostly non-significant (exception goal- setting knowledge), showing that PI at T3 was a mediator to some extent.

Descriptive results

Self-reported implementation of the training was very high (above 4.3 on a 5-point scale). Satisfaction with the training was very high, and ranged from 2.85 to 2.93, with a mean of 2.89 (scale ranging from –3 to +3). Participants would recommend training to colleagues (M = 4.93, SD = 0.25, N = 27, at T2, scaling from 1–5) and five to seven months later (M = 4.92, SD = 0.26, N = 16). Transfer motivation was very high, ranging from 4.35 to 4.96 (scale ranging from 1–5) (M = 4.83 – data not shown). Participants indicated positive effects in their written comments, for example: 'I cannot believe that I knew so little about running a business', and: 'In a very short time so much has been brought to my attention. I certainly feel that this is the start of something better.' One of the training participants had subsequently successfully tendered for a government project worth ZAR3,000,000 (about US$375,000 at the time of the study).

Discussion

The results confirmed the positive effects of the training. Reaction measures showed high satisfaction with the training. Knowledge increased in all measures except time management knowledge. Participants reported a change in behaviour owing to transfer of knowledge and skills acquired during the training. The behaviour-based exercises confirmed the reported change for innovation, as well as proactive goal setting and planning. Training also had a positive impact on firm success. Sales level two years after

the training (the long-term effect) increased from ZAR2,130,000 (about US$266,000) before the training to ZAR3,520,000 (about US$440,000) for the training participants, an increase of 65%. The control group showed a slight decrease in their sales during this period. However, note that the SD is very large; therefore, this difference was only margin- ally significant (Table 3).

PI was described as the central variable of the training programme, being intertwined with all training components. PI at T3 was, indeed, significantly related to the various dependent variables, including sales level at T4 (Table 2). Partial correlations confirmed that correlations between the training and various dependent variables were reduced when PI at T3 was controlled.

Conclusion, strengths and limitations

In the study reported here, we intended to present a short PI training programme aimed at improving small business performance and evaluating a training intervention. The results showed that the stated objectives had been achieved, with some reservations discussed in the strengths and limitations below. It was shown that training can have positive effects for small businesses and that there is potential to identify contributions of different components of the training, as in the case of time management. Furthermore, it was shown that further research is required to deal with the concerns raised, such as small participating groups.

The major strength of this study is that increased PI showed effects. These effects were manifested on the four levels of training effectiveness (Kirkpatrick, 1959): reaction, learning, behaviour and success measures (Friedrich *et al*, 2006), though the result was marginal for success measures. The control group provided a control for effects of history and maturation (Cook *et al*, 1990). Changes in the business environment would have influenced both the training and the control groups in the same way. From a practical perspective, a short three-day psychological training course for increasing the PI of the owners had long-term positive consequences for small to medium-sized firms.

Four issues need to be considered when interpreting the findings. First, there were differences in certain variables at T1 between those who participated in training and those who did not. There was a (non- significant) difference in sales between the training and control groups (the training group started out with annual sales of ZAR2,130,000 and the control group with ZAR610,000). This could have been a result of self-selection, as successful business owners are more likely to participate in psychological training than less successful owners. It could be said that successful owners generally show a bigger increase in sales over time, and therefore that the increased difference in sales between the training and control groups after the training may not have been caused by the training programme. To examine this, the change in sales was examined during the two years before the training. Since the control group showed a marginally higher increase in sales during this period, it is unlikely that a pure self- selection effect was responsible for the positive effects of the training. Further variables showed systematic differences between training participants and the control group at T1. However, these variables were controlled for in the analysis of covariance; as the number of employees was controlled for, size was held constant.

The interaction effect of repeated measures and group was also examined, meaning that relative enhancement of sales over time was predicted by participating in the training. Second, unfortunately, power was low for the analysis, because two years after training only 16 participants (60%) of the training group and 15 participants (50%) of the control group provided data (however, there were no significant differences between these participants and the full sample of participants). Nevertheless, the lack of power (and the high standard deviation) may have contributed to the fact that only marginally significant effects appeared for the most important dependent variable – sales.

Third, it was not possible to assign owners randomly to training and control groups. An attempt was made to recruit a waiting control group by signing up owners who would be willing to wait for 1.5 years to participate in a training course, but it did not succeed. The design had the disadvantage that it could not rule out potential self-selection effects (and indeed, the training group was found to be lower on external locus of control and higher in the number of employees). Therefore it was controlled for number of employees and locus of control as covariates in all analyses of covariance (MANCOVA, ANCOVAs). As discussed above, a number of additional plausibility checks were attempted to rule out pure self- selection effects. Thus it is fair to conclude that the training was probably instrumental in increasing knowledge, PI, innovation and proactive goal setting and planning, as well as success in sales.

The fourth concern was the issue of generalization. Would training be effective for other owners, both in South Africa and other countries? A number of problems arose: first, the self-selection of the training participants; second, a small group of training participants who gave their sales data two years after the training; lastly, the dependent variable 'Sales' increased in variance in the training group as a result of the training (non-significant increase, Levene test: $F = 3.41$, $p < 0.10$), showing only a marginally significant effect.

Recommendations

We recommend that the study should be repeated, taking the issues raised above into consideration. At a macro level, policy makers should encourage the inclusion of longitudinal assessment of interventions and ensure that practitioners implement training strategies that have an effect at all four levels of Kirkpatrick's training model. Obviously, ineffective training will not show any positive results at all the levels of Kirkpatrick's model. This is one way of identifying and differentiating between training programmes that are useful and those that need to be adapted or even discarded. At the micro or firm level, it is recommended that training interventions should be developed for the needs of the target market. High-impact and need-focused content programmes should be preferred over generic training programmes. Therefore, empirically validated entrepreneurial training programmes must be encouraged for implementation. They can enhance the efficient utilization of scarce resources and improve entrepreneurial activity, leading to increased performance of enterprises, and consequently providing immense opportunities for entrepreneurship to deliver value to the economic and social needs of South Africa.

Notes

[1] Closed Corporation (CC) is used as a proxy for small businesses because it was the legal entity form that most small businesses registered as at the Companies and Intellectual Property Commission (CIPC) until 2011 when small businesses had to register as a company, in accordance with the New Companies Act of 2008. CIPC is a subsidiary of the Department of Trade and Industry of South Africa.

[2] Most of the deregistrations/liquidations occurred post-2008, coinciding with the aftermath of the global financial crises.

[3] The figure of 400,000 must be interpreted in the context of migrations of CCs to companies, and companies to CCs and from CCs to other simpler legal forms as well as to the informal sector.

[4] The rationale behind the criteria for participation in the study is that non-white small business owners invariably did not have exposure to any entrepreneurial and/or business management training, and the vast majority of small business owners in South Africa are non-white. Participants must be able to influence the business strategy. Businesses operating for more than one year will have a reasonably defined market and supplier base. When employing people (even just one employee) some form of division of labour or organization exists.

References

Adebisi, J.F. (2013), 'Time management practices and its effect on business performance', *Canadian Social Science*, Vol 9, pp 165–168.

Alliger, G.M., Tannenbaum, S.I., Bennett, W.J., Traver, H., and Shotland, A. (1997), 'A meta-analysis of the relations among training criteria', *Personnel Psychology*, Vol 50, pp 341–358.

Arthur, W.J., Bennett, W.J., Edens, P.S., and Bell, S.T. (2003), 'Effectiveness of training in organizations: a meta-analysis of design and evaluation features', *Journal of Applied Psychology*, Vol 88, pp 234–245.

Bandura, A. (1991), 'Social cognitive theory of self-regulation', *Organizational Behavior and Human Decision Processes*, Vol 50, pp 248–287.

Bhidé, A.V. (2000), *The Origin and Evolution of New Businesses*, Oxford University Press, New York.

Bird, B., and Jelinek, M. (1988), 'The operation of entrepreneurial intentions', *Entrepreneurship Theory and Practice*, Vol 13, No 2, pp 21–29.

Companies and Intellectual Property Commission (2013), *Registration Statistics June 2013*, website: http://www.cipc.co.za/Stats_files/WebStats_June2013.pdf (accessed 5 August 2013).

Cook, T.D., Campbell, D.T., and Peracchio, L. (1990), 'Quasi experimentation', in Dunnette, M.D., and Hough, L.M., eds, *Handbook of Industrial and Organizational Psychology, Vol 1*, 2 ed, Consulting Psychologists Press, Palo Alto, CA, pp 491– 576.

Department of Trade and Industry (1995), 'White paper on national strategy for the development and promotion of small business in South Africa', *Government Gazette*, 28 March, Department of Trade and Industry, Cape Town.

DeTienne, D.R., and Chandler, G.N. (2004), 'Opportunity identification and its role in the entrepreneurial classroom: a pedagogical approach and empirical test', *Academy of Management Learning and Education*, Vol 3, pp 242–257.

De Winne, S., and Sels, L. (2010), 'Interrelationships between human capital, HRM and innovation in Belgian start-ups aiming at an innovation strategy', *International Journal of Human Resource Management*, Vol 21, pp 1863–1883.

Diefendorff, J.M., and Lord, R.G. (2004), 'The volitional and strategic effects of planning on task performance and goal commitment', *Human Performance*, Vol 16, pp 365–387.

Dimov, D. (2007), 'From opportunity insight to opportunity intention: the importance of person-situation learning match', *Entrepreneurship Theory and Practice*, Vol 31, pp 561–583.

Driver, A., Wood, E., Segal, N., and Herrington, M. (2001), *Global Entrepreneurship Monitor: 2001 South African Executive Report*, Graduate School of Business, University of Cape Town.

Ellis, A. (1962), *Reason and Emotion in Psychotherapy*, Lyle Stuart, New York.

Fay, D., and Frese, M. (2001), 'The concept of personal initiative: an overview of validity studies', *Human Performance*, Vol 14, No 1, pp 97–124.

Fleiss, J.L., and Shrout, P.E. (1977), 'The effects of measure- ment errors on some multivariate procedures', *American Journal of Public Health*, Vol 67, No 12, pp 1188–1192.

Ford, J.K., Kozlowski, S.W.J., Kraiger, K., Salas, E., and Teachout, M.S., eds (1997), *Improving Training Effectiveness in Work Organizations*, Lawrence Erlbaum, Mahwah, NJ.

Foxcroft, M., Wood, E., Kew, J., Segal, N., and Herrington, M. (2002), *Global Entrepreneurship Monitor: 2002 South African Executive Report*, Graduate School of Business, University of Cape Town.

Frese, M., Beimel, S., and Schoenborn, S. (2003), 'Action training for charismatic leadership: two evaluation studies of a commercial training module on inspirational communication of a vision', *Personnel Psychology*, Vol 56, pp 671–697.

Frese, M., Brantjes, A., and Hoorn, R. (2002), 'Psychological success factors of small scale businesses in Namibia: the roles of strategy process, entrepreneurial orientation and the environment', *Journal of Developmental Entrepreneurship*, Vol 7, pp 259–282.

Frese, M., and Fay, D. (2001), 'Personal initiative (PI): a concept for work in the 21st century', *Research in Organizational Behavior*, Vol 23, pp 133–188.

Frese, M., Fay, D., Hilburger, T., Leng, K., and Tag, A. (1997), 'The concept of personal initiative: operationalization, reliability and validity in two German samples', *Journal of Organizational and Occupational Psychology*, Vol 70, pp 139– 161.

Frese, M., Krauss, S., Keith, N., Escher, S., Grabarkiewicz, R., Luneng, S.T., Heers, C., Unger, J., and Friedrich, C. (2007), 'Business owners' action planning and its relationship to business success in three African countries', *Journal of Applied Psychology*, Vol 92, pp 1481–1498.

Frese, M., Kring, W., Soose, A., and Zempel, J. (1996), 'Personal initiative at work: differences between East and West Ger- many', *Academy of Management Journal*, Vol 39, No 1, pp 37–63.

Frese, M., Teng, E., and Wijnen, C.J.D. (1999), 'Helping to improve suggestion systems: predictors of giving suggestions in companies', *Journal of Organizational Behavior*, Vol 20, pp 1139–1155.

Frese, M., Van Gelderen, M., and Ombach, M. (2000), 'How to plan as a small scale business owner: psychological process characteristics of action strategies and success', *Journal of Small Business Management*, Vol 38, No 2, pp 1–18.

Frese, M., and Zapft, D. (1994). 'Action as the core of work psychology: a German approach', in Triandis, H.C., Dunnette, M.D., and. Hough L., eds, *Handbook of Industrial and Organizational Psychology, Vol 4*, Consulting Psychologists Press, Palo Alto, CA, pp 271–340.

Friedrich, C., Glaub, M., Gramberg, K., and Frese, M. (2006), 'Does training improve the business performance of small-scale entrepreneurs?' *Industry and Higher Education*, Vol 20, pp 75–84.

Hamel, G., and Prahalad, C.K. (1994), *Competing for the Future*, Harvard Business School Press, Boston, MA.

Herrington, M., Kew, J., and Kew, P. (2008), *Global Entrepreneurship Monitor: 2008 South African Report*, Graduate School of Business, University of Cape Town.

Honig, B. (2004), 'Entrepreneurship education: toward a model of contingency-based business planning', *Academy of Management Learning and Education*, Vol 3, pp 258–273.

Hult, G.T.M., Hurley, R.F., and Knight, G.A. (2004), 'Innovativeness: its antecedents and impact on business performance', *Industrial Marketing Management*, Vol 33, pp 429–438.

Jackson, S.E., Joshi, A., and Erhardt, N.L. (2003), 'Recent research on team and organizational diversity: SWOT analysis and implications', *Journal of Management*, Vol 29, No 6, pp 801–830.

Kew, J., and Macquet, J. (2002), *Profiling South Africa's Township Entrepreneurs in Order to Offer Targeted Business Support*, Centre for Innovation and Entrepreneurship, Graduate School of Business, University of Cape Town.

Kiggundu, M.N. (2002), 'Entrepreneurs and entrepreneurship in Africa: what is known and what needs to be done', *Journal of Developmental Entrepreneurship*, Vol 7, No 3, pp 239–258.

Kirkpatrick, D.L. (1959), 'Techniques for evaluating training programs', *Journal of the American Society of Training and Development*, Vol 13, pp 3–9.

Klyver, K., Hunter, E., and Watne, T. (2012), 'Entrepreneurial ties and innovativeness in the start-up decision', *International Journal of Entrepreneurship and Innovation*, Vol 13, No 3, pp 153–163.

Kodithuwakku, S.S., and Rosa, P. (2002), 'The entrepreneurial process and economic success in a constrained environment', *Journal of Business Venturing*, Vol 17, pp 431–465.

Koop, S., De Reu, S., and Frese, M. (2000), 'Entrepreneurial orientation, initiative, and environmental forces in Uganda', in Frese M., ed, *Success and Failure of Microbusiness Owners in Africa: A Psychological Approach*, Greenwood Publications, Westport, CT, pp 55–76.

Krauss, S.I., Frese, M., Friedrich, C., and Unger, J. (2005), 'Entrepreneurial orientation and success: a psychological model of success in Southern African small scale business owners', *European Journal of Work and Organizational Psychology*, Vol 14, pp 315–344.

Kunin, T. (1955), 'The construction of a new type of attitude measure', *Personnel Psychology*, Vol 8, pp 65–78.

Ladzani, W.M., and Van Vuuren, J.J. (2002), 'Entrepreneurship training for emerging SMEs in South Africa', *Journal of Small Business Management*, Vol 40, No 2, pp 154–161.

Latham, G.P., and Saari, U.M. (1979), 'Application of social- learning theory to training supervisors through behavioral modeling', *Journal of Applied Psychology*, Vol 64, No 3, pp 239–246.

Lazarus, R.S., and Folkman, S. (1984), *Stress, Appraisal and Coping*, Springer, New York.

Levenson, H. (1974), 'Activism and powerful others: distinctions within the concept of internal–external control', *Journal of Personality Assessment*, Vol 38, pp 377–383.

Little, B.R. (1983), 'Personal projects: a rationale and method for investigation', *Environment and Behavior*, Vol 15, pp 273–309.

Locke, E.A., and Latham, G.P. (1990a), *A Theory of Goal Setting and Task Performance*, Prentice-Hall, Englewood Cliffs, NJ.

Locke, E.A., and Latham, G.P. (1990b), 'Work motivation and satisfaction: light at the end of the tunnel', *Psychological Science*, Vol 4, pp 240–246.

Lumpkin, G.T., and Dess, G.G. (1996), 'Clarifying the entrepreneurial orientation construct and linking it to performance', *Academy of Management Review*, Vol 21, No 1, pp 135–172.

Macan, T.H. (1996), 'Time management training: effects on time behaviors, attitudes and job performance', *Journal of Psychology*, Vol 130, pp 229–236.

McPherson, M.A. (1998), *Zimbabwe: A Third Nation-Wide Survey of Micro and Small Enterprises*, final report prepared for USAID, PricewaterhouseCoopers, Harare, Zimbabwe.

Mumford, M.D., Schultz, R.A., and Osburn, H.K. (2002), 'Planning in organizations: performance as a multi-level phenomenon', *Research in Multi-Level Issues*, Vol 1, pp 3–65.

National Credit Regulator (2011), *Literature Review on Small and Medium Enterprises' Access to Credit and Support in South Africa*, National Credit Regulator, Pretoria.

Nieman, G. (2000), 'Training in entrepreneurship and small business enterprises in South Africa: a situational analysis', *Education & Training*, Vol 43, No 8/9, pp 445–450.

Orford, J., Herrington, M., and Wood, E. (2004), *Global Entrepre- neurship Monitor 2004: South African Report*, Centre for Entrepreneurship and Innovation, Graduate School of Business, UCT, Cape Town.

Perks, S., and Smith, E.E. (2008), 'Focused training for solving growth problems of very small businesses', *Acta Commercii*, Vol 8, pp 145–159.

Radipere, S., and Van Scheers, L. (2005), 'Investigating whether a lack of marketing and managerial skills is the main cause of business failure in South Africa', *South African Journal of Economic and Management Sciences*, Vol 8, pp 402–411.

Rauch, A., and Frese, M. (2000), 'Psychological approaches to entrepreneurial success: a general model and an overview of findings', *International Review of Industrial and Organizational Psychology*, Vol 15, pp 101–142.

Rauch, A., Wiklund, J., Lumpkin, G.T., and Frese, M. (2009), 'Entrepreneurial orientation and business performance: cumulative empirical evidence', *Entrepreneurship Theory and Practice*, Vol 33, pp 761–787.

Reay, T., Berta, W., and Kohn, M.K. (2009), 'What's the evidence on evidence-based management?' *Academy of Management Perspectives*, Vol 23, No 4, pp 5–18.

Rogerson, M.R. (2008), 'Tracking SMME development in South Africa: issues of finance, training and regulatory environment', *Urban Forum*, Vol 19, pp 61–81.

Rosenbusch, N., Brinckmann, J., and Bausch, A. (2011), 'Is innovation always beneficial? A meta-analysis of the relation- ship between innovation and performance in SMEs', *Journal of Business Venturing*, Vol 26, No 4, pp 441–457.

Rousseau, D.M. (2006), 'Presidential address: Is there such a thing as "evidence-based management"?' *Academy of Management Review*, Vol 31, pp 256–269.

Sarasvathy, S.D. (2001), 'Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency', *Academy of Management Review*, Vol 26, pp 243–263.

Schumpeter, J. (1935), *Theorie der wirtschaftlichen Entwicklung* [*Theory of Economic Development*], 4 ed, Von Duncker and Humblot, Munich.

Schwarzer, R., and Jerusalem, M. (1995), 'Generalised self- efficacy scale', in Weinman, J., Wright, S., and Johnston, M., eds, *Measures in Health Psychology: A User's Portfolio.Causal and Control Beliefs*, Nfer-Nelson, Windsor, pp 35–37. Shane, S. (2003), *A General Theory of Entrepreneurship*, Edward Elgar, Cheltenham.

Shane, S., and Venkataraman, S. (2000), 'The promise of entrepreneurship as a field of research', *Academy of Management Journal*, Vol 25, pp 217–226.

Smith, K.G., Baum, J.R., and Locke, E.A. (2001), 'A multidimensional model of venture growth', *Academy of Management Journal*, Vol 44, No 2, pp 292–303.

Speier, C., and Frese, M. (1997), 'Generalized self-efficacy as a mediator and moderator between control and complexity at a longitudinal field study in East Germany', *Human Performance*, Vol 10, pp 171–192.

Storey, D.J. (2002), 'Education, training and development policies and practices in medium-sized companies in the UK: do they really influence firm performance?' *Omega, International Journal of Management Science*, Vol 30, pp 249–264.

Storey, D.J. (2004), 'Exploring the link, amongst small firms, between management training and firm performance: a comparison between the UK and other OECD countries', *International Journal of Human Resource Management*, Vol 15, No 1, pp 112–130.

Timm, S. (2011), *How South Africa Can Boost Support for Small Business: Lessons from Brazil and India*, Trade and Industrial Policy Strategies, Pretoria.

Timmons, J.A., and Spinelli, S. (2007), *New Venture Creation: Entrepreneurship for the 21st Century*, 7 ed, McGraw-Hill, New York.

Tornau, K., and Frese, M. (2010), *The Nomological Net of Proactivity: A Meta-Analytic Investigation*, Manuscript, Singapore.

Tripoli, A.M. (1998), 'Planning and allocating: strategies for managing priorities in complex jobs', *European Journal of Work & Organizational Psychology*, Vol 7, No 4, pp 455–476.

Turton, N., and Herrington, M. (2012), *Global Entrepreneurship Monitor: 2012 South African Report*, Graduate School of Business, University of Cape Town.

Unger, J.M., Keith, N., Hilling, C., Gielnik, M.M., and Frese, M. (2009), 'Deliberate practice amongst South African small businesses owners: relationships with education, cognitive ability, knowledge and success', *Journal of Occupational and Organizational Psychology*, Vol 82, pp 21–44.

Van Gelderen, M., Frese, M., and Thurik, R. (2000), 'Strategies, uncertainty and performance of small business startups', *Small Business Economics*, Vol 15, pp 165–181.

Wanous, J.P., Reichers, A.E., and Hudy, M.J. (1997), 'Overall job satisfaction: how good are single-item measures', *Journal of Applied Psychology*, Vol 82, No 2, pp 247–252.

Warr, P., and Allen, C. (1999), 'Predicting three levels of training outcome', *Journal of Occupational and Organizational Psychology*, Vol 72, pp 351–376.

West, M.A. (2002), 'Sparkling fountains or stagnant ponds: an integrative model of creativity and innovation implementation in work groups', *Applied Psychology: An International Review*, Vol 51, pp 355–386.

World Economic Forum. (2012). *The Global Competitiveness Report*: *2012–2013*, World Economic Forum, Geneva.