

Learning from African Entrepreneurship— On the Psychological Function of Entrepreneurial Preparedness

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Abstract: Psychological preparedness for entrepreneurial actions helps to connect macro-institutional support for entrepreneurs to actions of entrepreneurs. Action Knowledge and Personal Initiative are part of the entrepreneurial preparedness and there are two training concepts that have been developed to increase the number of entrepreneurs among BA and high school students in low- and middle-income countries and to improve the skills and mindset of entrepreneurs. I discuss large scale randomized controlled interventions in both of these areas with the STEP and Personal Initiative training. Showing that psychological preparedness for entrepreneurial actions can be enhanced, the question is whether methods shown to work in low-income countries can inform entrepreneurship research in general. Issues that seem to speak against generalizing are often seen in necessity, survivalist, and informal entrepreneurship. These issues are discussed and are only partially responsible for non-generalizability of findings. Practical and policy implications are also provided.

Keywords: Entrepreneurship; Start-ups; Economic Psychology; Training

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Introduction

In this article I attempt to make the case for the importance of psychology for entrepreneurship, for methodological advantages of doing research in low- and middle-income countries (LMICs), and for the usefulness of studying entrepreneurship in LMICs.¹

Psychological research on entrepreneurship is interesting for theoretical and practical reasons: From an action theory perspective, we want to know how actions influence entrepreneurial success (Frese, 2005; Frese & Fay, 2001). Actions are central for entrepreneurship and, therefore, the process of improving those actions needs to be studied for practical applications (Frese, 2021; Frese & De Kruif, 2000). Studying entrepreneurship can help to reduce poverty—one of the grand challenges for management and entrepreneurship scholars (George et al., 2016) and a United Nations sustainable development goal. At any moment in time, there are around 210 million firm creations in LMIC countries across the globe (Reynolds, 2012). If interventions improve their actions, it would help economic development. At the very least, the poverty of the owners of micro and small enterprises can be reduced by increasing their effectiveness (Reynolds, 2010).

Macro- and micro- system approaches for effective support for entrepreneurs are discussed often just along disciplinary lines without reference to each other. Economists suggest large scale (macro-system) improvements to institutions and strategies of countries, for example, entrepreneurship friendly tax regimes, access to credit, good banking systems, encouragement of the private sector to collaborate with small businesses, improving human capital, encouragement of formalizing firms, and supporting good jobs, easy access to markets, and reducing barriers, such as corruption or regulatory hurdles (Wurth et al., 2022). These are factors described as important by entrepreneurs (Frese et al., in prep 2024). However, we suggest that it is also necessary to understand psychological preparedness for entrepreneurial actions. Figure 1 describes the relationship between macro-conditions and micro-areas: For example, good financial support by government programs can be offered and will be taken. However, users of such financial support need to be prepared to make the best use of financial resources.

¹ All of the studies reported here were done with colleagues and students in Europe and Africa as well as economists at the world bank. I dedicate the Global Award for Entrepreneurship Research to them. I received helpful feedback on this article from Mona Mensmann, Michael Gielnik, Janina Peschmann, and Philip Yang.

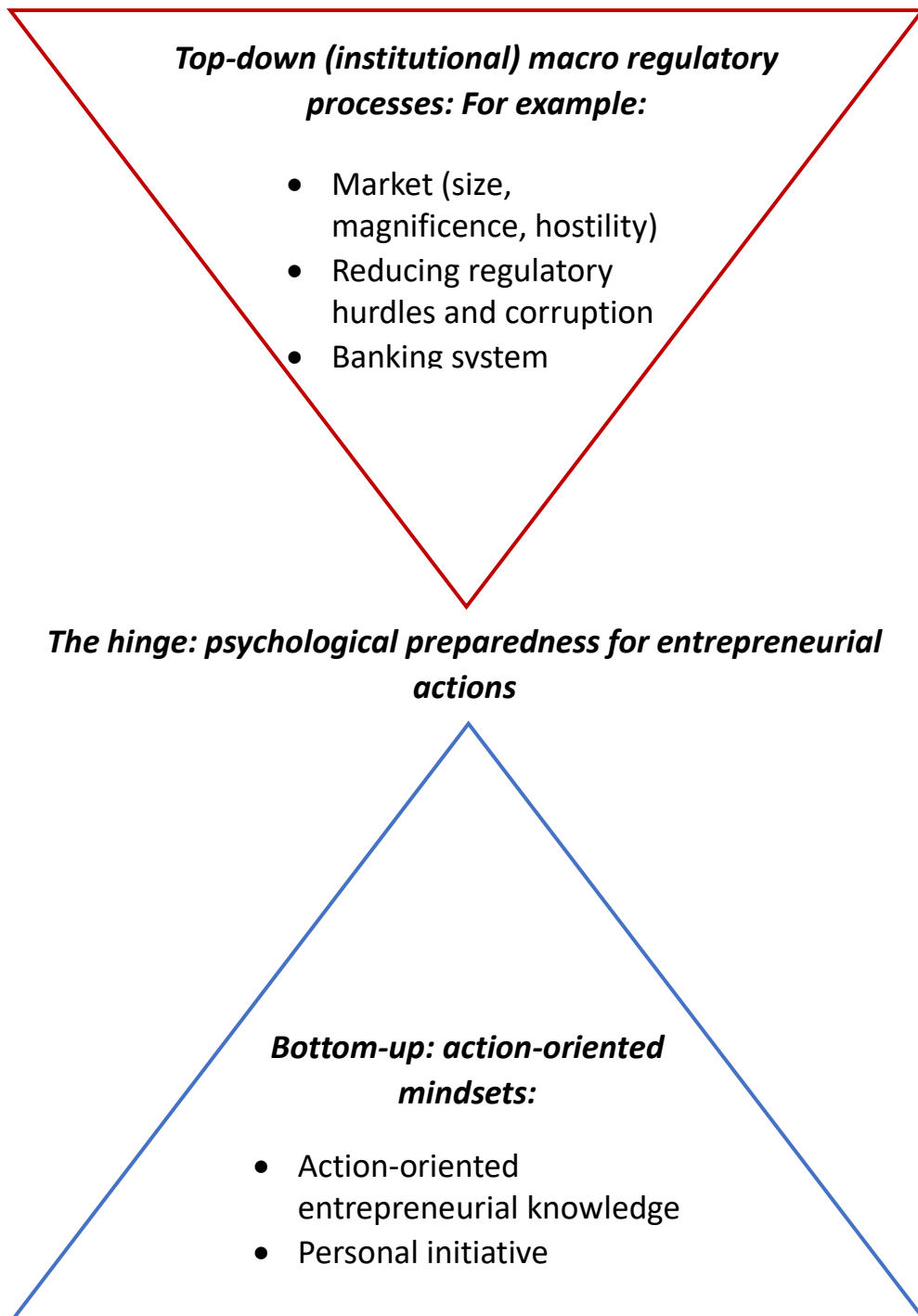


Fig 1. Combining macro- and micro processes in the entrepreneurial eco-system of a country

Preparedness for actions requires input from psychology; preparedness was originally developed by Seligman combining biology with psychology to understand a fast development of phobias (e.g. of snakes) (Seligman, 1971). We transport this concept to combine macro-system economic concepts with micro-concepts of psychology: A match between macro-institutional offers and psychological acceptance and motivation is needed to start a company. Psychological

preparedness connects the micro-world of individual entrepreneurs to the macro-world of institutional conditions. The idea is similar to the fit idea in person-environment interactions, for example, in trait activation theory (Cable & Edwards, 2004; Tett & Burnett, 2003): Psychological preparedness makes the micro- and macro-worlds click; the click helps to build on opportunities, to use resources well, and to put good ideas into action. In the following, I elaborate two components of psychological preparedness and discuss them in more detail – action-oriented entrepreneurial knowledge and personal initiative (PI)²; They can be improved by two trainings: The STEP training focusses on the cognitive area of effective entrepreneurship (action-oriented knowledge) (M.M. Gielnik et al., 2015; Peschmann, Gielnik, Frese, & Bischoff, 2023). The personal initiative training improves the motivational part of the entrepreneurial mindset – (PI implies to be self-starting, future oriented and persistent in overcoming barriers) (Frese, 2021). Before describing these trainings, I need to elaborate two methodological issues that speak for doing studies in LMICs.

Methodological Issues for Studying Entrepreneurship in Low- and Middle-Income Countries

Studying entrepreneurship in LMICs can be useful to address issues of endogeneity. Endogeneity is characterized by omitted variables, simultaneity, measurement error, and selection (Hill et al., 2021). The entrepreneurship literature often admits to have problems selection effects (range restriction) – usually entrepreneurship researchers accept that some firms exit the market. Often a Heckman’s instrument variable is developed to deal with endogeneity problems (Hill et al., 2021). However, I am worried that it is not easy to develop a good instrument variable that take care of ‘pre-selection’ issues. Pre-selection may be as important as exit via bankruptcy or sales: Potential entrepreneurs may have an idea for starting a company but stop soon afterwards; others may think long and hard about start-up ideas, before noticing that entrepreneurship is not for them; still others may even briefly start a firm for a few weeks but then take an attractive job offer. Pre-selection is often not represented in samples; this may lead to range restriction, which in turn cause serious underestimates of relationships (Hunter et al., 2006; Mendoza & Mumford, 1987). “...certain forms of range restriction can distort observed predictor correlations to a much greater degree” than assumed by many researchers (Sackett et al., 2007)(p. 542).

² Obviously there are a number of psychological issues that contribute to action-oriented knowledge and to the mindset of Personal Initiative, such as personality variables, motivational/affective antecedents such as entrepreneurial passion, intellectual resource, and cognitive antecedents; moreover, the action oriented characteristics include a number of different concepts, such as information search, active feedback processing, deliberate practice, etc. and they all are contingent on cultural factors (they are described in more detail in Figure 1, p.429 of (Frese & Gielnik, 2014)).

Some entrepreneurship researchers make a virtue of selection effects and suggest to concentrate on high growth entrepreneurship (La Porta & Shleifer, 2014a). Shane (2009, p. 145) argues: “Stop subsidizing the formation of the typical start-up and focus on the subset of businesses with growth potential. Getting economic growth and jobs creation from entrepreneurs is not a numbers game. It is about encouraging high quality, high growth companies to be founded.” (Shane, 2009). Shane’s paper was influential and useful because it reinforced a differentiated discussion on ‘gazelles’ (Morris et al., 2015). Research that attempts to select only highly successful entrepreneurs often has perfect “hindsight-vision”; this may lead to good post-diction models that are may not lead to adequate understanding of high growth. Shane knew this problem and, therefore, suggested to utilize experts (venture capital providers) as predictors of gazelles. Unfortunately venture capital providers are also not very good in predicting success for individual firms; they make their money by predicting industries rather than individual success. The small meta-analytic correlation between VC investment and returns breaks down when industry is included (Rosenbusch et al., 2013). Similarly, both experts as well as artificial intelligence methods were not able to predict growth well in an African setting (McKenzie & Sansone, 2019).

Davidsson (2004) suggested a thought experiment on horse racing to understand some of the effects of studies that are selecting gazelles: “We design the study so that we include only those gamblers who actually won...” (p. 62), leading to strong verification of the hypothesis that gambling leads to winning. This is obviously wrong (Davidsson, 2004) (p.63). To deal with this problem, Davidsson suggested to start prediction studies as early as possible. Such studies exist, (e.g., in the Global Entrepreneurship monitor [GEM] or in some of Davidsson’s analyses of representative social surveys (Davidsson et al., 2009; Hopp & Greene, 2018). However, a large part of studies (my own included) tends to recruit research participants from registers of existing entrepreneurs (e.g., Dun & Bradstreet). Selection effects may then be operative—even when relatively new ventures are selected.³

Range or variance restriction reduces correlations when selection affects the variable involved in a correlation (Hunter et al., 2006); other correlations may increase.⁴ Therefore, it is better to study budding entrepreneurs who have no other choice but to start a business because

³ A extreme example on the problems of selection effects occurred in Collins’ book ‘Good to Great’ (Collins, 2001). Collins selected companies that were originally average and then improved their stock returns to three times the market. He underestimated the dynamics of the market, however. A bit later two of Collin’s great companies went bankrupt and on average his group of ‘great companies’ did worse than the general market (Codrington, 2011).

⁴ The selection effects may pose particular problems in qualitative studies; they are usually based on small samples; also retrospective interpretations prevail because interesting results or new theory can be found only when new details are unearthed. Then hindsight errors and self-serving attributions are frequent; retrospectively, entrepreneurs’ reports are based on sense-making based on lay theories about events and their reactions.

there are no better alternatives (we will talk about ‘necessity entrepreneurship’ a bit later in this article). For example, about one-third of Ugandans have an intention to start a company or have just started one at any one point in time (Walter et al., 2005). Given this high degree of start-up activities, selection effects are probably small. Therefore, studies done in countries like Uganda may suffer less from range restrictions than even the most sophisticated analysis and recruitment strategy in high income countries with their welfare or unemployment support.

Another frequently discussed endogeneity problem relates to causality. The best way to study causal effects is to use true experimental field studies with a random control group (randomized controlled treatment, RCT)(Hill et al., 2021). Another reason for the choice for experiments is an ethical one: I do not want to provide interventions with unclear scientific merit in LMICs. Entrepreneurial success is more important in poor countries than in the West, because the participants’ poverty becomes worse when things go wrong. It is also unethical for un-proven interventions to induce optimism and hope in people living under precarious circumstances. Therefore, objective evidence for causal effectiveness of interventions is important. This also keeps researchers honest and humble and stimulates new thinking when experimental results do not support hypotheses. Practical issues also speak for doing such studies in LMICs—there is often a greater need for good interventions in such countries and a greater willingness to learn about entrepreneurship.⁵

We conducted experimental field studies in LMICs to test the effectiveness of new training programs to produce preparedness for entrepreneurial actions. The curricula for these trainings was based on scientific evidence. The first training aims to increase entrepreneurial action knowledge and effectiveness of entrepreneurial actions so that more students are prepared to start their career in entrepreneurship; the second training improves the motivational mindset of Personal initiative.

Interventions to Improve Action-Oriented Entrepreneurial Knowledge and Personal Initiative: Step and PI(Personal Initiative)–training

STEP Training (student training for entrepreneurial promotion)

STEP targets Bachelor-, high school-, and technical college-students and aims to increase the frequency of successful entrepreneurship (‘make job providers out of job seekers’). STEP is highly action-oriented, for example, it mandates that 5–6 students form a group to start an

⁵ Some of our pilot studies in a Western country made us aware that only a small minority of entrepreneurs were interested in skill training like personal initiative training, reducing potential samples.

informal company in their first or second session. Establishing real business ventures is crucial for students to gain experiences in actions.⁶ STEP trains specific action knowledge and skills for entrepreneurship among others, providing action knowledge to successfully initiate and manage a new venture including business opportunity identification, marketing, leadership and strategic management, psychology of planning and implementation, including how to deal with one's mistakes, financial bootstrapping.

STEP differs from traditional business training due to its emphasis on learning while doing (acting) in tandem with scientific knowledge; the content is tailored to participants' informal new start-ups. STEP transcends monodisciplinary approaches and is highly action oriented by using action principles; the curriculum development radically reduced the curriculum content to its absolute minimum of relevant principles for action⁷. Thus, there is little abstract teaching – everything relates to the new business just started. For instance, marketing's 5 or 6 Ps (Product, Price, Promotion, Place, and People + passion) are not presented abstractly. Instead, participants relate each P to their business, which steps taken to effectively market their products or services as well as necessary product adaptations. Active forms of getting negative feedback from customers are taught and incorporated.

After the 12th and final session, students are to dissolve their business. In most cases training projects provide seed capital in the beginning (e.g., \$100 for each group) and with the expectation to get it paid fully back after the training – about 80–90% is usually paid back. STEP accepts 'honest mistakes' resulting in financial loss (and uses them as training material); but trainers expect students to recover and to continue efforts to repay the initial amount.

Training sessions consist of three parts: presentation of action principles, experiential learning with real-world tasks, and a focus on the students' ventures. Discussions revolve around action principles and experiences related to their businesses. Students present achievements, next steps, problems encountered, and solutions implemented. Trainees and trainers provided positive and negative feedback referring to specific action principles for performance improvement.

Trainers emphasize errors to be interpreted as learning opportunities rather than as detrimental setbacks. Over time, participants increasingly take over to provide feedback to their peers, shifting the responsibility from trainers to trainees. PI is also integrated into the STEP training.

⁶ Action theory suggests to base trainings not on simulation, but to use real-life actions as much as possible (Frese, 2021). Also real life actions provide better learning when errors occur – people learn more from important consequences (Horvath, Klamar, Keith, & Frese, 2021).

⁷ Action principles are rules of thumb that are minimally necessary to be well-functioning. Financial literacy has shown this to be useful somewhat later, as well (Drexler, Fischer, & Schoar, 2014).

STEP training – developed between 2006 to 2008 with Instructors from Makerere University Business School in Uganda - aimed to alleviate poverty. African Bachelor of Arts students often struggle to secure employment in the existing economy. Consequently, STEP sought to transform job seekers into job providers; the primary dependent variable is number of businesses started. As the training was conducted during the final semester of their studies, it was feasible to determine soon after graduation and one year later whether or not they had launched businesses (Gielnik et al., 2015).

The RCT proved that the training group had a 30 percent higher rate of starting a business than the control group one year after the training (Gielnik et al., 2015). As displayed in Figure 2, the most important predictors were entrepreneurial actions and opportunity identification. Entrepreneurial actions were primarily driven by the interactions of goal intentions and action plans as well as knowledge of entrepreneurial actions. STEP changed action knowledge and actions, as well as planning and entrepreneurial goal intentions.

STEP training has been implemented in 11 LMICs across approximately 22 universities. Long term studies across two years based on 6,000 Bachelor students with 15,600 observations, showed 30% higher business ownership of the trained group, with total income approximately 10% higher than in the control group (Peschmann et al., 2023). The participants' employability was also enhanced with the treatment group getting more jobs than the control group. STEP training did not just increase start-ups in university students but also in 800 high school students (Herrmann et al., in preparation).

It is crucial to note that some researchers expressed concern that highly motivating trainings may inadvertently increase startup rates for individuals who are not adequately equipped for entrepreneurship in terms of personality, strategies, or genetics (Shane, 2009). According to this hypothesis, the much larger group of STEP training startups would have poorer performance than the much smaller group of firms started by the non-training control group – the latter group did not receive extra motivation and would be a more ‘natural’ selection of start-ups. The results falsify this hypothesis; businesses founded by training participants were as profitable as those in the control group in the long run (Peschmann et al., 2023). In summary, by enhancing concrete action-oriented knowledge and the preparedness to utilize opportunities to start businesses, STEP helps to improve the hinge between micro- and macro-subsystems.

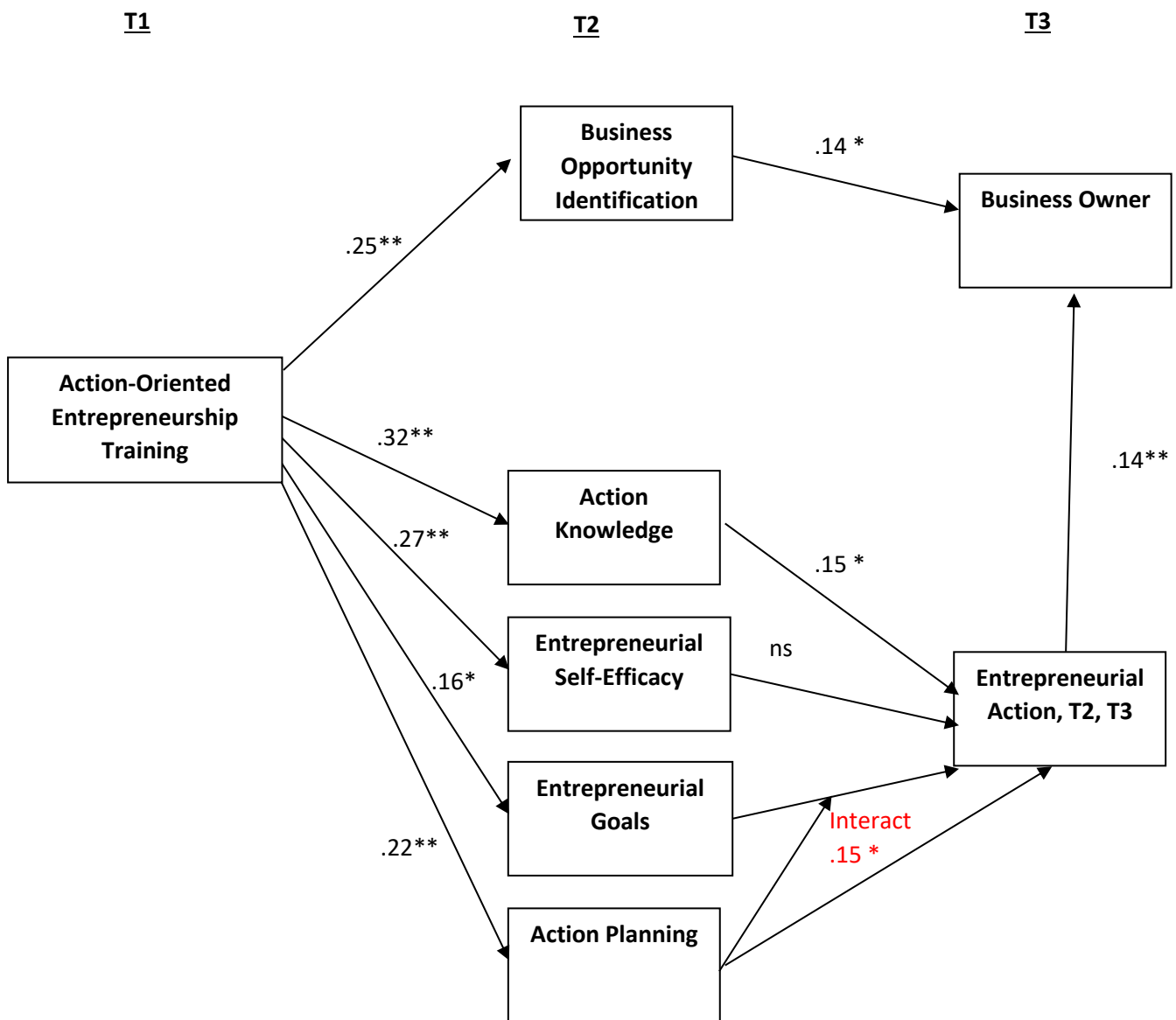


Fig 2. Path-Effects
Source: Gielnik et al. (2015)

Personal Initiative (PI) Training for Psychological Preparedness

PI increases parts of preparedness by enabling entrepreneurs to achieve entrepreneurial success. Entrepreneurs need to detect and exploit opportunities and to utilize resources. In the following, I will first introduce the PI concept and then discuss a training concept that increases PI.

PI as a behavioral syndrome of self-starting, future thinking, and overcoming barriers, is particularly well-suited to describe successful entrepreneurship. The three components of PI interact with each other and reinforce each other. First self-starting is the opposite of doing what one is told to do. It means actions are started without direct commands and without copying

others. Self-starting is a central concept for entrepreneurship because entrepreneurs do not usually have bosses who tell them what to do. Thus, entrepreneurs are always self-starting to some extent. However, entrepreneurs can also be reactive and thus show signs of the opposite of self-starting, for example, when they mimic competitors. We do not suggest here that entrepreneurs should not learn from others, but even when learn from competitors, they should at least slightly change similar offerings. Also, self-starting demands some degree of creative and innovative add-ons even when following trends in the market.

Second, future-orientation implies to think of upcoming opportunities and problems, and to prepare for them now. Future thinking may lead to new ideas or stimulate innovativeness by thinking about future directions of the market or one's position in the market.

Third, overcoming barriers. It is a defining characteristic of entrepreneurship that difficulties appear: Most entrepreneurs have too little resources, too few customers, difficulties with suppliers, problems in actually getting everything done. As entrepreneurs usually work in a competitive environment, competitors may erect barriers. For example, they mimic what an entrepreneur is doing and may take away customers with better prices or better products. Some researchers conceptualized persistence as part of the concept of grit (Mueller et al., 2017); at first sight, this looks to be the same; however, I prefer the 'action characteristic' of overcoming barriers because an action oriented concept does not participate in the problems of the grit concept to be highly related to personality trait conscientiousness (Crede et al., 2017).⁸

PI is not just related to general performance, but also to creative performance and employee productivity (Tornau & Frese, 2013). The opposite of personal initiative is to be reactive – a reactive approach is driven by the situation; there is little to no planning or working towards a goal. Reactive implies that entrepreneurs respond to each problem separately and to each situational demand without trying to influence the situation. There are certain cases, where reactive performance is useful, for example, when environmental difficulties surprise entrepreneurs or when planning becomes a form of procrastination.

We think of personal initiative to be a good summary of the motivational component of effective entrepreneurship (Frese, 2021). Empirically, there are clear correlations with entrepreneurial success (Table Supplement 1 displays a rough bare bone meta-analysis). The average correlation of personal initiative with entrepreneurial success in LMICs is $r=.22$.

⁸ In many cases, the literature (and including some of my earlier studies) did not sharply differentiate between trait-PI and PI-action-characteristic (Tornau & Frese, 2013). A trait is defined to be stable across situations and across time. An action-characteristic is not just internal to the person, but includes state-like interactions with the environment. We developed an interview measure of the state-like action characteristic (D. Fay & Frese, 2001). The concept of action characteristic encourages to develop interventions, in contrast to personality traits that are difficult to change.

The PI training for entrepreneurs was developed on the basis of action theory's (Frese & Zapf, 1994) facet model (Frese & Fay, 2001): The three aspects of PI (self-starting, future oriented and overcoming barriers) are related to the action sequence (developing goals, knowledge about the action environment, plans, and feedback during the action and at the end of the action). The facet model was used to develop action principles, exercises, small cases, etc. to teach PI in an action-oriented training (Mensmann & Frese, 2017).

The first randomized controlled intervention study of PI training in Uganda led to more successful entrepreneurship (Glaub et al., 2014). The world bank and our research group did the first large scale RCT study on PI training in Togo between 2014 and 2016 (Campos et al., 2017). It involved 1,500 informal entrepreneurs from various industries (53% were female) who were randomly assigned to three groups: A non-treatment control group, a traditional business training and one group receiving PI training.

The PI training focuses on self-starting actions which are based on innovation and opportunity identification by leveraging personal strengths and resources to generate new ideas (details in (Frese et al., 2016a; M. Mensmann & Frese, 2017)). Participants learn how to set goals high on innovativeness and ambitiousness. The participants are encouraged to search for negative feedback and use errors as a learning device in line with the error management concept (Frese & Keith, 2015). PI training boosts the use of creative approaches to overcoming obstacles. The training teaches how to plan well in line with Gollwitzer's implementation theory (Gollwitzer, 1999) (and to always have a back-up plan). At the end of the training, the participants committed themselves to a long-term business project to be put into effect within the next four to six months.

Campos et al. (2017) (cf. Figure 3) showed PI training to have the highest impact on profitability, being significantly higher than the traditional business training. The traditional business training did not significantly improve profitability compared to the control group. PI training increased the monthly profits by 30% (ca 60US\$ more per month). The implementation of novel products and services was markedly higher among the PI training participations; they also increased capital and labor inputs as well as diversification of products or services.

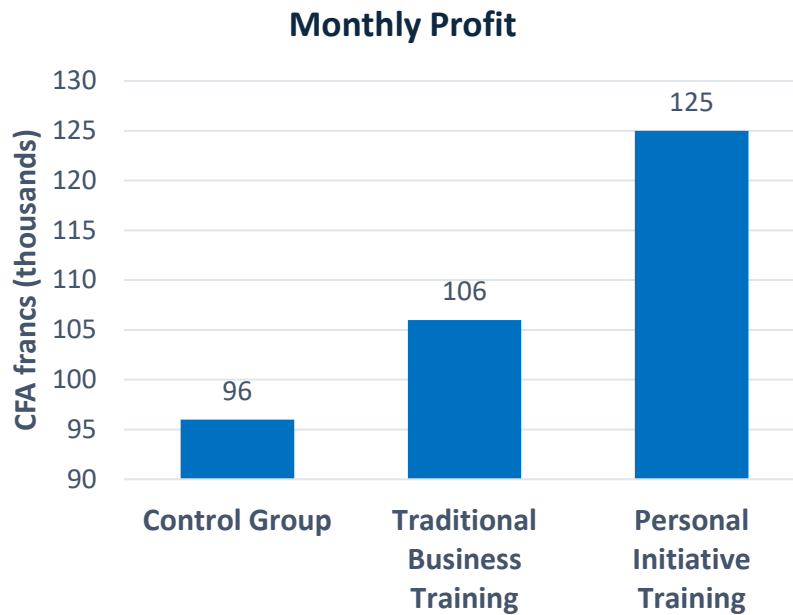


Fig 3. Comparing Personal initiative training with a Traditional business training, RCT in Togo (N=1500)

Source: Campos et al. (2017)

Another RCT of PI training in Mozambique led to positive effects in illiterate and very poor female farmers; however, the interaction with training for effective farming (agricultural extension training) was central (Montalvao et al., 2024). The experiment included three random groups of approximately 740 participants each – one that received a detailed development of farming knowledge, a second one participating both in the PI and the farming training and a control group. PI training increased the number of add-on start-ups for income diversification and led to entrepreneurship in farming. The participants in the PI training increased the number of side-firms by a significant degree. The most important result was that PI training led participants to use the increased farming knowledge better than those who did not get PI training (e.g., planting cash crops, cf. Figure 4). Even though both groups received the same farming training, only the PI group was motivated to utilize their newly acquired knowledge on better farming. This shows that PI training formed the motivation to be entrepreneurial, to be open and experiment, and get things done. PI training created the entrepreneurial mindset to improve farming as well as to develop side-businesses leading to higher profits.

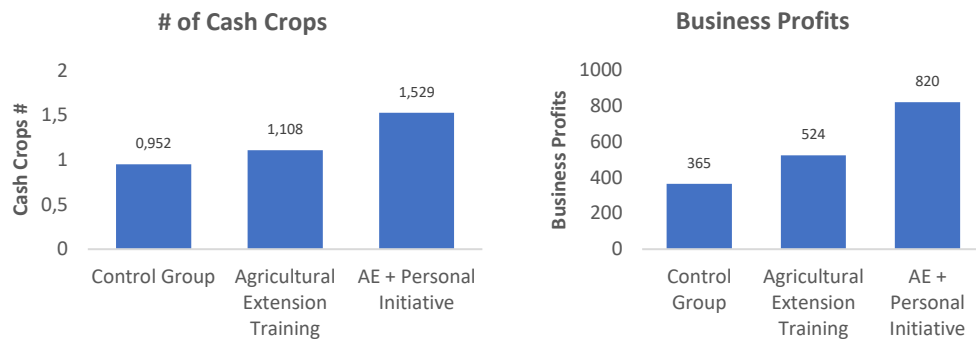


Fig 4. Agricultural extension training (AE) & Personal initiative training (PI) in Mozambique (N=2240; n=760 for combined training)

Source: Montalvao et al. (2024)

There are boundary conditions for the effects of PI training (Alibhai et al., 2019) as shown by a zero result in Ethiopia; this was probably not due to cultural differences, but to the (in-)effectiveness of some trainers (Wolf et al., 2020). Although, there was as correlation between PI and success in this sample, many of the trainers were not able to change PI enough to make a difference.

Another boundary condition on PI is time. Some of the effects continue on very long term (unpublished data show differences to prevail across the 3 groups in Togo up to 8 years after the training in 2014); however, we also found short term effects (Ubfal et al., 2022).

Can people keep up showing PI over very long time? My current thinking is that PI actions cost effort – it is hard work to prompt initiating actions again and again. Therefore, PI–actions are often reduced over time, even if profits are stable or increase (Mensmann & Frese, 2019). There may even be negative well-being effects if people force themselves to show PI (Zacher et al., 2019). However, PI actions can be considered a skill. That means, the skill can be reawakened if needed and will then have positive effects by taking charge of the environment and changing conditions to suit the needs of the actor.

Recapitulation

Up to this point, we showed that the two most important aspects of psychological preparedness for entrepreneurial actions – PI and action knowledge can be enhanced to increase the rate of entrepreneurship among students, and to improve entrepreneurial success. These studies were done in an environment, where range restriction is less severe than in Western countries. African countries allow such studies, precisely because there is lower chance to get employment outside entrepreneurship. Therefore, a large part of our samples can be called ‘necessity entrepreneurs’.

Entrepreneurship research has often argued that necessity entrepreneurs are different from opportunity entrepreneurs – thus calling into question the generalizability of our results.

Some quasi-experimental and small studies in Germany and in South Africa may suggest some generalization of results (Frese et al., 2016b; Solomon et al., 2013). However, these studies do not include randomized control groups. Generalization issues are important – too often institutional or cultural factors determine differences.

In the following, I discuss some obvious differences between low and high-income countries. What looks different may be due to differences in means but do not represent differences in ‘laws of nature’. I argued that LMICs allow ‘better’ studies of entrepreneurship (because of lower range restriction), precisely because more people need to start a business. And potentially, LMIC studies may help to overcome some type of Western biases resulting from the fascination with entrepreneurship in Silicon Valley, which itself may not necessarily be representative of entrepreneurship in general.

“Poor” Entrepreneurship as Necessity Entrepreneurship

The differentiation between necessity and opportunity entrepreneurship led to the insight that a high percentage of entrepreneurs in LMICs start their business out of ‘necessity’ because they do not have ‘better options’ available (Reynolds et al., 2003, p. 36). Necessity entrepreneurs start a company to ‘survive’ (Weiss et al., 2024) having to deal with the ‘liability of poorness’ (Morris et al., 2020). The entrepreneurship literature is strongly influenced by this differentiation (Dencker et al., 2021); it sounds plausible that the reasons why a person chooses entrepreneurship would also affect the way the business is run and its eventual success or failure. A similar concept, push and pull motivation for entrepreneurship, argues that push consists primarily of negative context conditions (negative job, bad boss, unemployment, etc.) and pull refers to own motivation (positive hopes, detection of great opportunities, and aspirations) (Dawson & Henley, 2012).

There are two problems with necessity- entrepreneurship: First, its dichotomous character and second, its assumed importance for entrepreneurial outcomes. Many researchers use the dichotomous measure of necessity versus opportunity entrepreneurship; which met criticism by some researchers (Caliendo & Kritikos, 2019; Coffman & Sunny, 2021; Eijdenberg & Masurel, 2013; Weber et al., 2023). Some studies equated entrepreneurship by unemployed with necessity entrepreneurship (Fairlie & Fossen, 2020). However, psychological research suggests to be careful with such assumptions: Negative situations (unemployment) may motivate people to think of opportunities for entrepreneurship. Negative situations often trigger to rethink one’s career (Bridger et al., 2013) and stress situations may even increase PI (Fay & Sonnentag, 2002).

Maybe the proverb “necessity is the mother of invention” has some truth to it (George & Zhou, 2002).

Some other research suggested to use motivational theories to improve the theory of necessity entrepreneurship, for example, by relating necessity to the lower levels of Maslow’s hierarchy – meeting the physiological and security needs (Dencker et al., 2021). We applaud the idea to develop stronger theory on necessity entrepreneurship; however, Maslow’s hierarchical model has not survived empirical scrutiny (Hall & Nougaim, 1968; Wahba & Bridwell, 1976), therefore it may not be an ideal candidate for theoretical redirection.

The most damaging issue for the concept of necessity entrepreneurship is that relevant studies often use retrospective or concurrent survey or interview data to measure necessity. Attribution theory suggests that people tend to favor ego-syntonic interpretations. If the current (economic) situation is perceived negatively, it is likely that one makes the bad environment responsible for one’s problems. In contrast, if one’s company does well, the owner tends to assign this to be due to his or her actions (Ross, 1977). The attributional critique is generic as it calls into question the validity of retrospective reporting of motivational factors.

This leads to the conclusion that there is no easy measure for necessity versus opportunity-based entrepreneurship. But even if we had a perfect measure, prior motives for starting a business are unlikely related to entrepreneurial success. Empirically, there is little support for the hypothesis that necessity entrepreneurship leads to lower success. A British study discovered no clear relationships on subsequent growth (Birley & Westhead, 1994). There was a small negative effect of necessity entrepreneurship on success in a Dutch study of solo entrepreneurs (De Vries et al., 2020). A longitudinal study in Germany found necessity entrepreneurship to have reduced chances of survival, lower income, reduced number of employees, and fewer patents or trademarks (Caliendo et al., 2023); this is quite persuasive. However, an alternative interpretation is that the German sample is made up of unemployed who may partially misuse a program because it gave more generous and prolonged support for unemployed who said they wanted to start a company (*Gründungszuschuß*); this may have attracted some people who were not keen to start a company, but used the program to get better and prolonged welfare support. In contrast, a study comparing East and West German entrepreneurs found no significant correlations of push or pull variables to potential economic outcome variables in East-Germany (Galais, 1998). In West Germany push motivation was related to higher business income but lower satisfaction (Galais, 1998). Three different African samples also showed a near zero average correlation of $r=.05$ with unemployment as reason for entrepreneurship (Frese, 2000); prior unemployment as

reason for entrepreneurship also does not significantly contribute to failure of informal businesses in South Africa (Woodward et al., 2011).

The best estimate from this discussion is that a) necessity vs. opportunity based entrepreneurship should not be measured in a dichotomous way; b) the push vs. pull motives and high growth goals before the starting-up are not a good predictor of success after start-up – this is not surprising given the fact that intentions require a plan of action to have an impact on behavior (Gielnik et al., 2015; Gollwitzer & Sheeran, 2006); c) the reciprocal relationship between necessity and opportunity development needs to be empirically elaborated in more detail; d) at this moment in time, the current literature is not able to provide clear answers, and, therefore, we can safely assume that necessity entrepreneurship look different but its correlations with success do not justify to think that different laws of nature are operative for necessity entrepreneurship. e) I still maintain, however, that range restriction issues taught us to be positive about studies with people who are ‘forced’ into entrepreneurship because range restriction affects the correlations otherwise.

Poor Entrepreneurship: The Need for Financial Resources

Ask any entrepreneurs anywhere in the world whether she or he needs more money, she or he will most likely answer yes. Forming a successful firm requires financial support – and this is true both in low as well as in high income countries. What is more interesting is that even in the USA – the ‘Mecca’ of venture capital and angel investors, only 1 in 5 entrepreneurs receive a bank loan to start a business and the median figure for starting capital is 28,000 \$; differences between industries exist and initial capital may be as low as 9,952 US\$ (for professional scientific and technical service), but a sizeable number of startups have even less than 5000 US\$.⁹ These are unexpectedly low numbers for a rich country.

Obviously, starting capital is much lower in LMICs. But it is important for later success . Frese (2000) reported from four African samples an overall correlation of .30 of starting capital with success; the exact same correlation was also reported in Jamaica (Honig, 1998).

Do these data mean that increasing the money supply later on helps? There was strong support and enthusiasm for the idea of micro-credits after Yunus started his micro-credit bank in Bangladesh (Yunus, 1989). However, further studies turned out to be a bit less optimistic. A meta-analysis on micro-credit reported a relatively small average correlation of $r=.11$ of micro-credits with profit increase (Chliova et al., 2015). This correlation was based on very few studies and the meta-analysis reported a sizeable publication bias; that means positive effects of micro-

⁹ <https://www.lendingtree.com/business/startup-costs-by-industry/> (retrieved May 19, 2024).

credits are more often reported than non-positive effects (Chliova et al., 2015). Thus, the small effect is partly due to publication bias; moreover, the studies were not based on RCTs.

Fortunately, there is a meta-analysis of seven large RCTs that can provide clear causal evidence showing the effect size of micro-credit programs on entrepreneurial success to be zero (Meager, 2019). One contributing factor could be the rather high interest rates for micro-credits.

Could it be that there is an economic and psychological difference between starting capital and credits later on? How can we explain the importance for success of starting capital in contrast to micro-credit programs? Potentially, starting capital's relationship with entrepreneurial success may be based on selection effects: Apparently successful people receive more capital to start a business than those who are perceived to be not so successful (Cooper et al., 1988) – such an effect can happen not just with strangers but also with capital provided by family or friends. Some effects appear in pitches: Being perceived to have high PI in a pitch is a positive signal that leads to enhanced pitching success (Alinaitwe et al., 2024). Thus, starting capital may be received because the person signals entrepreneurial competence and motivated engagement. Also, financial resources in the very beginning of one's entrepreneurial career may be indicative of a good business idea and assumed personal potential for entrepreneurship.

Starting capital may be more important than later funds because it helps to generate early profits; early profit, in turn, may lead to additional success that can be reinvested. However, the issue is not just the objective financial support, but also how entrepreneurs deal with financial constraints. The better they can deal with capital constraints the more successful they can be (Bischoff et al., 2020). Bischoff et al. (2020) showed in two longitudinal randomized field experiments that STEP trained participants developed a better mental model of how to deal with financial constraints and that this was a major reason (mediator) for starting a firm; similarly, those who could not participate in the STEP training tended to refrain from creating a firm. One implication may be that an action-oriented training to potential firm owners may help to deal with financial constraints. Psychological preparedness also implies to know strategies to deal with difficult environments. This does not mean of course that the lack of financial resources in LMICs is unimportant. However, bootstrapping methods to deal with financial difficulties might compensate (Ebben & Johnson, 2006; Winborg & Landstrom, 2000); therefore, financial bootstrapping is taught in both STEP and PI training.

The upshot of our discussion here is that early starting capital is important for later success. Easy solutions later on in the process, like micro-credits, may not be as useful as previously thought. Painstakingly accompanying firms with help and mentoring as well as psychological training may work better than just concentrating on finances.

Formal and Informal Entrepreneurship

Related to necessity and poverty entrepreneurship but not identical to them is the issue of informal business. One reason to be critical of generalizing results from research in LMICs is the dominance of informal entrepreneurs in much of the emerging world (Porta & Shleifer, 2014). Usually informal business is defined by not having a tax number, not paying central tax (different types of registration exist, e.g., local registration), but participating in the legal sector of the economy (thus, criminal activities are a separate category, although they are often informal) (La Porta & Shleifer, 2014a). La Porta and Shleifer (2014b) argue that formal and informal business have little overlap; they have different production processes, different customers, and informal business is unlikely to become formal (taxation costs are higher than advantages from being formal). They also suggest that the main difference between them is related to owner's education and managerial skills that are usually higher in the formal sector, leading to better work processes and better quality of products and services in the formal sector (La Porta & Shleifer, 2014b).

Nevertheless, formal vs. informal business is an important topic. In many African countries, more than half of GDP is produced by informal business and the majority of firms are informal (Struwig et al., 2019). Moreover, informal economy does not just exist in low income but also in high income countries. By its very nature, the informal economy is not as easily measured as the formal economy. The size of the informal business is hidden from the state and tax office. As one German entrepreneur once told me when I asked for his company's profit rate: "I do not talk to anyone about my profit rate, not to the tax office, not even to my wife; I certainly will not tell you." Estimates on the informal economy are in the range of 41% in developing countries and 18% in the developed world (OECD countries) (Schneider & Klinglmaier, 2004). High income countries like Greece and Italy had at least in the early years of 2000 a strong shadow economy as well (with 28% and 26% of GDP being informal) and, thus, they are not that different from some African countries like Kenya (34%) and South Africa (28%) (Schneider & Klinglmaier, 2004). More importantly, countries' informal parts of the economy do not necessarily change to become less informal when countries grow their wealth; moreover, entrepreneurs' choices for informality in both Western and developing countries are influenced by similar factors (Portes & Sassen-Koob, 1987; Tonoyan et al, 2010). Although mean differences between Western and developing countries exist they do not seem to amount to a different quality.

Informal economy may not be related to growth, but the informal economy contributes to the overall economic activities including providing jobs. For Uganda 49% of GDP is due to the

informal economy according to one estimate (Struwig et al., 2019). Owners choose informality because of high taxes, social security costs, and complicated regulations around labor, restrictions for foreign labor, etc. “A one-point increase of the regulation index (ranging from 1 to 5...) ... is associated with an 8.1% percentage point increase in the share of the shadow economy” (Schneider & Klinglmair, 2004, p. 18–19).

Using entrepreneurs’ perspective on being formal, there are positive and negative issues. Positive reasons for being formal are: Value added tax can be retrieved back, e.g. from formal suppliers. Government support, bank support, etc. is better available for formal business; some customers may demand official receipts; informality may hold back growth – marketing is easier if a company is formal; institutional theory suggests that there is higher legitimacy of a formal organization; making the company well-known is a goal of marketing, but for an informal business too much prominence would attract the tax office or corrupt police; the formal business may also appeal more to highly qualified employees.

Moreover, disadvantages exist if a business is informal: There is little protection and lower support by government and its agencies. Theft in informal business may be high (La Porta & Shleifer, 2014a), and owners tend not to report theft to the police. Informal businesses are frequently forced to pay bribes to the police and other government agencies (they often do not have land titles or are deemed to be illegal occupants of spaces).

Descriptive studies support the negatives of informal business (La Porta & Shleifer, 2014a): Informality may hinder quality and efficiency in production improvements. On the other hand, encouraging informal business to formalize carries costs: First, the financial outlets for becoming formal are often very high LMICs (Khavul et al., 2009). Informal business can develop a better capital base and more action knowledge if they are informal, at least in the beginning phases of their business (stepping stones towards a strong development in poor countries (Gielnik & Frese, 2013; Kodithuwakku & Rosa, 2002)). Empirical studies show that informal companies in developing countries are better off, if they do not start their companies as formal; and the longer they stay informal the better is their sales and growth rate (Williams et al., 2017).

Second, the empirical literature shows that there is the path to growth is not better for formal than for informal companies (cf. Table 1 of Jacob et al., 2019).

Third, most of the studies discussed up to this point are descriptive and thus do not support causal understanding. One of the few experimental studies demonstrates that becoming formal does not make the businesses more profitable (Benhassine et al., 2018). Recouping the tax disadvantage of being formal is often difficult (Benhassine et al., 2018). Also, reducing the costs for formalization does not have a long-term positive effects (Galiani et al., 2017).

Fourth, psychological preparedness may be important, as well. A longitudinal study examined whether or not formal entrepreneurship has positive growth effects on firms (Jacob et al., 2019). Being formal did not contribute to later growth. However, this longitudinal study also included personal initiative in its design. Indeed, PI mattered: In contrast to low PI owners, formal entrepreneurs with a high degree of PI managed firms to grow. The articles also included a mechanism: Those formal entrepreneurs, who were also high on PI, made better use of those resources available than those with lower PI.

Obviously, we cannot draw firm conclusions from one study but this study suggested that psychological prerequisites to utilize resources counts. The action-oriented mindset of PI allows entrepreneurs to make use of the advantages of being formal.

Thus, an alternative view of formal and informal business is that all business has to deal barriers. Both formal and informal companies produce barriers and these are important if a business transitions from informal to formal. A conclusive study on changing from informal to formal business suggests that this change should not be done too early (Williams et al., 2017).

Conclusion and Policy Implications

This article started out with the argument that macro-economic conditions require psychological preparedness for entrepreneurial actions. I examined two aspects of psychological preparedness in more detail: Action oriented entrepreneurial knowledge and the motivational personal initiative that helps to develop ideas and to push forward in spite of barriers. Moreover, there is good reason to think that studying change of psychological preparedness is better done in LMICs because range restrictions are less frequent in countries where there are few alternatives to entrepreneurship. Moreover, it is possible to do large scale studies in such countries because the pressure to improve the business to allow the support of one's family is higher in such countries.

The two trainings described above confirmed that psychological preparedness can be improved leading to better coping with difficulties, use of resources, and improved entrepreneurial knowledge, skills and motivation. As far as we can tell, PI training has positive effects both for very successful and not-so-successful entrepreneurs (Campos et al., 2017). This is also true for women entrepreneurs with high and low intelligence or with high or low human capital (Campos et al., 2018). Legitimate worries that we encourage wrong people to start a company can be laid to rest because the more frequent STEP participants are slightly more successful with their business than the 30% smaller control group of entrepreneurs. Moreover, STEP participants can deal with lack of financial resources better than the control group.

Similarly, PI training helps the process of making use of farming knowledge to produce higher yields and higher income. It shows again, that psychological preparedness for entrepreneurial actions is achievable even in mostly illiterate women.

This article tried to discuss potential issues that often are levied against studies from LMICs and are related to the issues of necessity, survivalist, and informal entrepreneurship. Which arguments need to be made to actually talk about qualitative differences between low- and high-income countries in entrepreneurship? I suggest that these empirical cut-off points must be met: First, only those variables should be utilized that show moderate to strong construct and criterion validity. Second, Are there mean differences on these variables (intercept). Mean differences often appear and they are often the first reason why differences are assumed. Third, are there correlational (slope) differences. This is the most important reason for assuming qualitative differences.

I discuss not the (obviously preliminary) conclusions on the three differentiators discussed above:

First, necessity entrepreneurship: I believe, there is little criterion validity of necessity entrepreneurship, although there is a high degree of plausibility of the idea and there are clear mean differences; however, the literature shows little or no correlational differences between LMICs and high-income countries. Indeed, I was persuaded that the concept of necessity entrepreneurship should be laid to rest until there are better measures and data and systematic effects on success.

Second, financial resources: The need for financial resources has some validity; financial resources are mentioned by most entrepreneurs as important. I suggest that there may be a difference between starting capital and later credits. Thus, a first conclusion of correlational differences suggests that the timing, the size and the details of the resource provision matter. The psychological reaction to financial resources may be important. The saying that 'money concentrates the mind' is probably true. The hope to get enough financial support is universal among entrepreneurs. At the same time, commercial approaches (e.g., micro-credits) have helped less than the originators of this idea had hoped. I have often supported the idea that micro-credits providers should also teach PI. I am not so sure about that any more. The attention to finances might overshadow training effects. This is an important research question and it requires careful psychological studies on attentional processes before, during, and after training and receipt of credits or grants. Also any research on financial support should include the question of how entrepreneurs cope with lack of financial resources. Maybe dealing with the lure of (and attention to the lack of) financial resources may be important here. In terms of

differences between low- and high-income countries, we can only state that simply throwing money at entrepreneurs does not always help (and particularly not if that money carries high interest rates). Also, surprisingly, starting capital is lower everywhere in the world than generalizations from Silicon Valley would suggest. And it is necessary to ask the question how people deal with financial difficulties. STEP training seems to help here, but more research is needed.

Third, formal vs. informal business. Visiting informal firms is often shocking when comparing them to formal business in the West. Mean differences between low-and high-income countries exist, although they are less strong than often suggested and may be due to other factors than usually assumed (immigration, strength of labor unions, labor laws, etc.) (Portes & Sassen-Koob, 1987). In LMICs entrepreneurs need to make decisions whether to stay informal or become formal. Empirical work supports the proposition that in LMICs businesses should start informally (Williams et al., 2017). Some degree of informality also exists in high-income countries, for example, as side gig to one's job before registering a business. In developing countries, the transition to formal business should be gradual and easy (e.g., sudden high taxation even for non-profitable firms will not help such a transition). PI training might help to make use of resources or developing new ones in this transition. Given the complexity of formal and informal business, we cannot draw any firm conclusions on differences between low-and high-income countries. The only strong conclusion that can be drawn is that abrupt societal attempts to combat informal business can be counterproductive because informal business adds jobs and societal wealth to an economy.

Scaling of interventions: Whenever interventions are based on preparing individuals for entrepreneurial actions, the issue of scaling up becomes important. The successful application of the STEP training in high-schools in Uganda shows a way that might help to scale up training effects and potentially support a cultural shift towards an entrepreneurial culture in a society. Prior use of STEP in a technical college for all students produced apparently positive effects even though the students did not have a choice to participate or not (Gielnik et al., 2016); STEP is also used at a large university in the Philippines for a large part of the students.

In general, I hope that I have shown that the common pursuit of psychology and economic approaches may help economic macro development and can also help individual entrepreneurs to participate more meaningfully in the economic activities of countries.

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