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**Psychological Training for Entrepreneurs to Take Action: Contributing to Poverty
Reduction in Developing Countries**

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Abstract

Entrepreneurship is one of the most effective means to alleviate poverty in developing countries. Effective entrepreneurship requires psychological approaches, in particular active (that is agentic) approaches. We introduce an action regulation training approach focusing on self-regulation and active behavior of the entrepreneur as a bottom-up solution for poverty reduction. We present two different trainings. The first training focuses on enhancing personal initiative in entrepreneurs from developing countries. The second training aims at boosting start-up rates in these countries by enhancing participants' entrepreneurial skills and motivation. We describe underlying theoretical assumptions, structures, and effects of both trainings. Evaluation studies with randomized pre-post-test control group designs show that action regulation training is a successful means to promote entrepreneurship in developing countries.

Keywords: action regulation theory, entrepreneurship, training, personal initiative

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Psychology has often shied away from participating in solving “grand” challenges because of its inherent orientation towards individuals. One such grand challenge is poverty reduction. Supporting the number and quality of entrepreneurs is probably one of the most helpful ways to reduce poverty because it creates employment and boosts innovation and economic empowerment of individuals in poor countries with extremely high unemployment rates (Mead & Liedholm, 1998; Pick & Sirkin, 2010). Governments in these countries have increasingly acknowledged that entrepreneurship is an effective means to reduce poverty and introduced several top-down programs to facilitate starting a new firm. These top-down programs mainly involve changes in laws and regulations to improve the ease of doing business (World Bank, 2013). In contrast, bottom-up approaches attempt to support entrepreneurs either with financial resources (micro-credits) or with better business knowledge (Drexler, Fischer, & Schoar, 2014; McKenzie & Woodruff, 2012). In particular, providing financial resources received broad attention. Within the micro-credit community, there are influential activists like the Nobel prize winner Yunus (Yunus, 1999), who argued that providing micro-credit was enough and no further training to enhance people's skills was needed. Although both government programs and micro-credits for the poor are necessary, these institutional and economic strategies often failed because they did not pay enough attention to the psychological side (Chliova, Brinckmann, & Rosenbusch, 2015).

Recent scientific developments led to new knowledge on the psychology of entrepreneurship (Baron, 2002; Baum, Frese, & Baron, 2007; Frese & Gielnik, 2014; Hisrich, Langan-Fox, & Grant, 2007). This literature has now been used to develop psychological trainings to increase the number and quality of entrepreneurs in developing countries. We shall report on interventions that are psychological in nature and that aim at enhancing the agency of entrepreneurs and undergraduate students to positively impact the number and quality of start-ups and their growth.

The Centerpiece of Entrepreneurship: Agency Based on Self- and Action Regulation

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We argue that the centerpiece of a psychology of successful entrepreneurship is the agentic nature of entrepreneurs who actively influence the environment, actively scan for opportunities, develop opportunities into viable products/services, actively plan the firm in appropriate detail and with a long term orientation, put ideas into effect, and actively search for feedback to be ahead of competitors (Frese, 2009). The theoretical underpinnings are action regulation theory (Frese & Zapf, 1994; Zacher & Frese, in press) and self-regulation theories (Bandura, 1997; Baumeister, Bratslavsky, Muraven, & Tice, 1998; Lord, Diefendorff, Schmidt, & Hall, 2010).

Action regulation theory holds that in order to be agentic, people have to carry out the following aspects of the action sequence: setting goals, developing knowledge about the environment, forming and executing action plans, monitoring the action, and seeking feedback. Furthermore, all these aspects of action should be based on personal initiative. Frese and Fay (2001) defined personal initiative as self-starting behavior with a long-term orientation and persistence when problems and opportunities appear.

Agency Training Method

An agency training promotes being active (Frese & Zapf, 1994). The agency training achieves this via four training components: First, the training combines knowledge acquisition with direct actions. Therefore, the training requires all participants to act as entrepreneurs. For those who already run a firm, the action knowledge needs to be tied to one's particular firm. For students without firms, the training requires that they start informal micro firms on the first day of the training. Second, participants should acquire adequate operative mental models containing action relevant knowledge. Operative mental models can and should be evidence-based and communicated through action principles (Glaub, Frese, Fischer, & Hoppe, 2014). These action principles are action-ready rules of thumb from which non-essential knowledge is stripped away (Drexler et al., 2014; Gielnik et al., 2015). For example, action principles inform participants about how to show personal initiative in goal setting,

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information and opportunity search, planning, and feedback seeking (e.g. “Use feedback to detect future problems and opportunities” describes how to show a long-term orientation in feedback seeking). Participants internalize the action principles through verbalization while acting. Furthermore, they develop the precise meaning of action principles when practicing and applying them to their firms. Third, action regulation theory holds that actively practicing and repeating actions during the training is important for deep processing and routinization of the training content. Moreover, active practicing is key to transform theoretical (declarative) knowledge into practical (procedural) knowledge. Fourth, the training emphasizes feedback, including negative feedback. Negative feedback provides participants with information about deficiencies in their actions and thus contributes to learning and dealing with knowledge and practice gaps. Negative feedback can also have a motivating function because it discloses a gap between the status-quo and desired end-states prompting people to invest additional effort. A special form of negative feedback is making an error. Action regulation theory emphasizes the importance of making errors in the training. Meta-cognizing on errors (e.g., what happened when I made the error) and a non-emotional positive approach to errors leads to high action learning (Frese & Keith, 2015). Finally, participants develop a personal project (Little, 1983), for example, introducing new products/services or using unconventional marketing techniques. The personal project facilitates the transfer of the knowledge gained in the training to the context outside the training. Our approach includes stripping away non-essential material and, thus, face-to-face training time is limited to 24-36 hours.

Two Agency Training Interventions

The first training intervention – personal initiative training – is oriented towards existing entrepreneurs. The second one – the STEP training (Student Training for Entrepreneurial Promotion) – is oriented towards university, but also vocational school students. The first training for existing entrepreneurs is based on action regulation theory with particular reference to the concept of personal initiative (Glaub et al., 2014). For developing the training

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material, we crossed the aspects of the action sequence (i.e., goal setting, environmental scanning, action planning and execution, monitoring, and feedback seeking) with the personal initiative facets (self-starting, long-term orientation, and persistence). This matrix resulted in action principles for all combinations of the facets of action regulation theory and personal initiative. Table 1 depicts examples of action principles and underlying learning goals (for a more detailed table, see Glaub et al., 2014). The action principles guide entrepreneurs through the entrepreneurial action process and inform them about how to show personal initiative. We also used the matrix to develop exercises and case studies describing positive and negative entrepreneurial actions.

The second training – STEP training – is aimed to develop an entrepreneurial mindset in undergraduate students from non-business subjects (e.g., computer science, psychology, arts, or veterinary medicine majors). In one study we also targeted vocational school students. The main objective of the STEP training is to prepare the students for their career and to encourage them to start and grow a firm. This training is based on self- and action regulation (Bandura, 1997; Frese, 2009). STEP focuses first on teaching action knowledge needed to perform start-up activities. Action knowledge is provided by rules of thumb for the major content areas of entrepreneurship in developing countries, such as marketing, financial management, getting starting capital, accounting, business planning, and legal issues. Second, STEP includes a part dealing with psychological areas of leadership, planning, creativity and opportunity identification, effective dealing with customers, networking, as well as personal initiative. The training combines knowledge acquisition with actions to produce true action knowledge. Better action knowledge contributes to successful entrepreneurial endeavors. Third, the training focuses on developing intentions to start a firm. However, one of the problems of goal intentions is that they are not necessarily implemented. Therefore, fourth, the training leads to plans that convert the intentions into actions. Action plans make it possible to implement an intention by specifying when, where, and how to perform actions; in

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this way an implementation intention is produced (Gollwitzer, 1999). Fifth, by providing mastery experience in practical start up activities, the training also enhances entrepreneurial self-efficacy (Bandura, 1997). An important effect of self-efficacy is the increase of goal difficulty after goals are achieved (Phillips, Hollenbeck, & Ilgen, 1996). Sixth, a central point of entrepreneurship is to create and detect opportunities. Therefore, we teach opportunity detection with two different approaches – one inspired by classic creativity training (DeTienne & Chandler, 2004) and one by effectuation (Sarasvathy, 2001). All of this is supposed to lead to an increase in entrepreneurial actions which together with opportunity identification leads to new start-ups (cf. Figure 1 for the model and results of STEP).

Effects of Agency Training Interventions for Entrepreneurship

The personal initiative training for existing entrepreneurs was evaluated with a 1-year study based on a randomized pre-post-test control group design (RCT) in Uganda and showed a high degree of effectiveness (Glaub et al., 2014). The training increased participants' personal initiative behavior; and this increase was responsible for higher business success after the training (full mediation). The sales level of training participants rose 27% from 2.67 million Ugandan Shillings before the training to 3.39 million Ugandan Shillings one year later and the number of employees per firm increased by 35% from 7.88 to 10.67 employees per firm (these numbers decreased across the year for the waiting control group). Further RCT studies with thousands of entrepreneurs using different comparison groups are in progress¹.

One successful case is the case of a Ugandan firm owner producing cheap aluminum saucepans of low quality for a highly competitive market. As a result of the training he attempted to switch to higher quality production to target a better paying customer group. He

¹ The trainings are carried out in cooperation with the World Bank in Togo, Mexico, and Ethiopia. Additionally, a similar training success appeared for the same type of training with weaker designs and smaller samples in South Africa (Solomon, Frese, Friedrich, & Glaub, 2013) and in Germany (Frese, Hass, & Friedrich, 2016).

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invested in testing his products at the National Bureau of Standard. Detailed feedback of quality deficiencies allowed him to improve the production (e.g., by applying special tools) to be finally certified. With the quality certificate, he approached a wholesaler and succeeded in securing a large order that did not just keep his firm busy for more than a year but also three cooperating neighboring firms (Glaub et al., 2014).

The action regulation training for undergraduate students was similarly tested with a long-term evaluation study using a randomized pre-post-test design with a waiting control group. The evaluation study provided evidence for the positive impact of the training one year after the training intervention (Gielnik et al., 2015). The results show that the number of start-ups grew from 16% to 51% and was 50.1% higher than in the control group. Even more impressive is the increase in job creation over time. After a year, training group entrepreneurs created 1.06 jobs and thus, twice as many additional jobs than business owners of the control group who generated on average 0.51 jobs in addition to their own. The positive effect on job creation became even more pronounced after one and a half years with 2.82 jobs created by entrepreneurs in the training group versus 2.00 jobs created by entrepreneurs in the control group. The training also increased participants' entrepreneurial self-efficacy, entrepreneurial goal intentions, action planning, and action knowledge, as well as opportunity detection, which mediated the effect of the training on firm creation (Gielnik et al., 2015). These findings hold across different developing countries (cf. Table 2). In Table 2 we present an overview of the STEP trainings we have implemented and evaluated so far. The table also provides the impact of the training on start-ups after one year.

An example for the higher level of agency as a result of training is the case of Jane (Bischoff, Gielnik, & Frese, 2014). Jane – a computer science major – was a young unassertive and nearly submissive participant in our training. After the training, she began to start several new firms, first a poultry farm, but later on also an ice cream parlor, an event management company, and an IT consultancy. She generated substantial revenues and created

jobs for five people. Jane is now a highly assertive and poised young lady and a prototype of a successful portfolio entrepreneur. She attributed her success to the training which changed her attitude towards entrepreneurship, and provided her with a “can-do”-attitude towards grabbing opportunities, starting something, and overcoming problems and failures (Bischoff et al., 2014)².

Discussion and Conclusion

We think of our trainings to be consistent with the tradition of short-term but "wise" interventions that are guided by theoretical psychological perspectives and influence important psychological and economic variables (Walton, 2014). The focus of our "wise" interventions was on action based improvements and on the development of an entrepreneurial mindset to start a firm. Although it is likely that entrepreneurship cannot be changed within a few hours, the interventions presented here are with 24 and 36 contact hours much shorter than most other interventions suitable for entrepreneurs in developing countries (Glaub & Frese, 2011). Nevertheless, they had a strong impact on entrepreneurship. From a psychological perspective, it is important that the intended mediators (such as personal initiative behavior in the personal initiative training or the mediators described in Figure 1 in the STEP training) were shown to be indeed operative in producing the positive effects on entrepreneurship.

We submit that our interventions should contribute to reducing poverty in developing countries. While there is no definitive study of training to increase the economic activities of a whole country, there are data showing that a higher number of entrepreneurs translates into positive net effects of employment in the economy of developing countries (Mead & Liedholm, 1998). We submit that our training leads to a positive cycle of developing an agentic stance towards intentions and goals, scanning of the environment, planning, and

² Video cases of other participants are on '<https://youtu.be/AiyF-R20ywQ>' and '<https://youtu.be/t9FFZF7X7RM>'

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feedback processing. This agentic stance then leads to effective activities, which help to secure entrepreneurial success, thus reinforcing a positive cycle of increasing agentic activities, more success, and continuous reinforcement. The agentic stance also includes dealing effectively and persistently with set-backs and barriers. Our emphasis on agency should reduce the frequent occurrence of entrepreneurs in developing countries "waiting" for donor money to help them (we explicitly deal with this issue in the trainings when we explicate that any good plan should not be based on components that make the plan execution too much dependent on outside forces). And, indeed, the effects of worries about lack of capital on start-ups is wiped out by the training (Bischoff, Dlugosch, Gielnik, & Frese, 2013).

One concern could be that the STEP training may lead to "unnatural" entrepreneurs, increasing misfits to the tasks of entrepreneurship in the intervention group because entrepreneurship was made to look too good or too easy to the participants. This could lead to more ineffective entrepreneurs in the intervention group than in the control group. However, this does not seem to be case. Although the STEP training increased the number of entrepreneurs by about a third (in comparison to the control group), these higher numbers of entrepreneurs were more successful than those who appeared "naturally" without outside intervention in the control group. Another critical issue could be an attribute-treatment interaction as our interventions may be more positive for certain groups of participants than for others (Gully, Payne, Koles, & Whiteman, 2002). We are currently researching this issue, but do not yet have relevant results.

Our approach was evidence-based in two important ways. First, we evaluated the interventions rigorously with randomized controlled group design and second, we based all concepts in the trainings on scientific literature (while also eliminating non-essential concepts). Our trainings were psychological because we used an agentic approach in the trainings based on psychological theories of action and self-regulation to understand and enhance entrepreneurship. This evidence-based and scientific psychological approach to

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"wise" interventions led to significant effects on the number and quality of entrepreneurs in poor countries, thus contributing to coping with one of the grand societal worldwide challenges, namely poverty reduction.

Recommended Readings

Bischoff et al. (2014). An introduction to entrepreneurship training in developing countries and to the action-regulated training for bachelor students.

Frese, M., & Gielnik, M. M. (2014). A comprehensive overview of the psychology of entrepreneurship.

Gielnik et al. (2015). A detailed description of the action-regulated training for bachelor students and results of the impact assessment.

Glaub et al. (2014). An overview of the personal initiative training for small scale entrepreneurs in Africa and the results.

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Table 1. Crossing action regulation theory and personal initiative theory to develop action principles for the personal initiative training (based on Glaub et al., 2014).

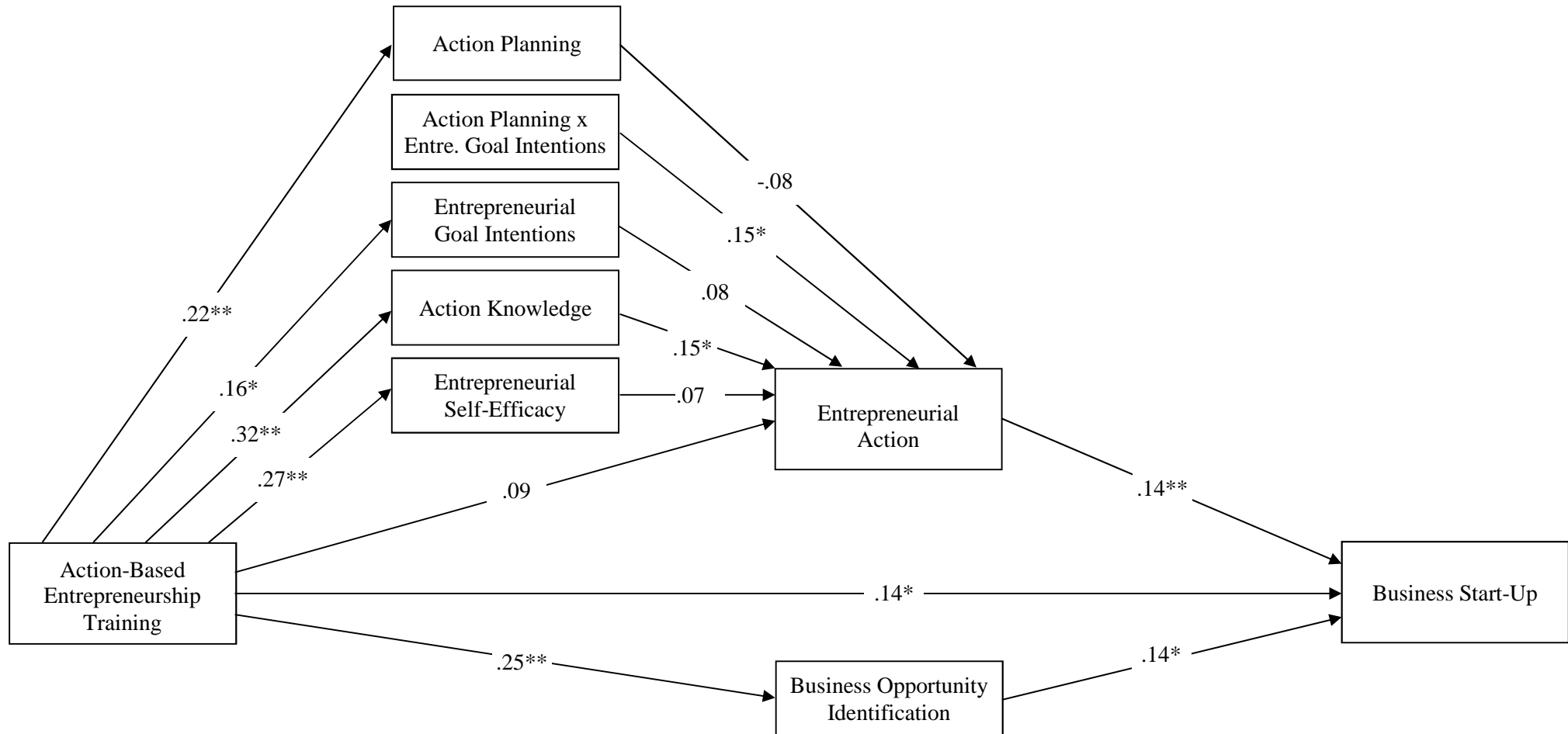
	SELF-STARTING	LONG TERM ORIENTATION	PERSISTENCE
GOAL SETTING	<i>Action principle:</i> Set a goal that makes your business different from your competitors' businesses!	<i>Action principle:</i> Identify possible trends in the market and set a goal to meet future market needs!	<i>Action principle:</i> Keep on pursuing your goal, even when barriers appear!
	<i>Underlying learning goal:</i> Entrepreneurs shall set themselves unique goals in order to differentiate their products and services from the rest of the market	<i>Underlying learning goal:</i> Entrepreneurs shall not only formulate short term goals, but also long term goals to prepare their business for the future	<i>Underlying learning goal:</i> Entrepreneurs shall not let external problems like a lack of finance or internal problems like frustration destroy their goal pursuit
ENVIRONMENTAL KNOWLEDGE GENERATION	<i>Action principle:</i> Look for information that is difficult to get!	<i>Action principle:</i> Think of how your sources of information might develop in the future!	<i>Action principle:</i> If you don't find the information that you need, try other sources!
	<i>Underlying learning goal:</i> Entrepreneurs shall use sources of information that are different from those that their competitors use	<i>Underlying learning goal:</i> Entrepreneurs shall ensure future information flow for their businesses	<i>Underlying learning goal:</i> Entrepreneurs shall persist in finding information to be prepared for current and future obstacles and opportunities
ACTION PLANNING/ EXECUTION	<i>Action principle:</i> Make plans that allow you to flexibly react to situational demands!	<i>Action principle:</i> Consider future opportunities and threats and integrate them into your plans!	<i>Action principle:</i> If you have to leave your plans due to barriers: Get back to them as quickly as possible!
	<i>Underlying learning goal:</i> Entrepreneurs shall ensure that they can actively and flexibly react to market developments	<i>Underlying learning goal:</i> Entrepreneurs shall detect possible future conditions that might impact their planning	<i>Underlying learning goal:</i> Entrepreneurs shall make sure that they do not permanently lose track of their plans in case of problems
MONITORING/ FEEDBACK	<i>Action principle:</i> Ask former customers why they stopped buying your products!	<i>Action principle:</i> Ask customers, competitors, and suppliers what they see as biggest challenges and opportunities for your business in the future!	<i>Action principle:</i> Don't give up in case you don't find the information that you need! Try other sources of feedback!
	<i>Underlying learning goal:</i> Entrepreneurs shall actively search for negative feedback as this reveals areas of improvement	<i>Underlying learning goal:</i> Entrepreneurs shall not only focus on the present state of their business, but also use every possible information to prepare for future business threats and opportunities	<i>Underlying learning goal:</i> Entrepreneurs shall persist frustration that arises from setbacks in feedback search

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Table 2. Overview of the STEP trainings that have been implemented and evaluated in developing countries.

Year	Country	Institution	Number of training participants	% increase in start-up compared to control group (one year post intervention)
2009	Uganda	University	208	50.1
2011	Liberia	University	171	29.1
2011	Uganda	University	62	n/a
2012	Uganda	University	209	44.9
2012	Liberia	University	92	n/a
2012	Kenya	University	216	29.6
2013	Uganda	Vocational School	122	n/a
2013	Tanzania	University	220	109.7
2013	Rwanda	University	206	300.9
2013	Uganda	University	202	23.2
2013	Kenya	University	208	12.3
2014	Tanzania	University	224	29.9
2014	Uganda	University	180	in progress
2014	Kenya	University	188	in progress
2015	Rwanda	University	216	in progress
Total / Average			2,724	70.0

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Figure 1. Theoretical and empirical model of the impact of the STEP training (based on Gielnik et al., 2015).

Note. The numbers indicate standardized path coefficients; * $p < .05$; ** $p < .01$.