What works in entrepreneurship trainings FAO Webinar

Feb, 1, 2023





in collaboration with MIT Sloan Management

Prof. Dr. Michael Frese

Leuphana, Univ. of Lueneburg, Germany and Asia School of Business (in collaboration with MIT Sloan Management)

The Syndrome of Personal Initiative Consists of 3 Types of Action Characteristics: Self-starting, Future Orientation and Overcoming Barriers

Meaning of Self-Starting

- Self-starting is different from the "normal" or obvious approaches
- Doing the obvious \rightarrow self-starting is low
- Something new and innovation

Meaning of future orientation

- Scanning for opportunities and problems that may appear in the future
- Preparing now for dealing with future problems and exploiting future opportunities
- Actively seeking feedback to enhance long term usefulness of products/services

Meaning of Overcoming Barriers

- Protecting one's goals and adapting one's plans to overcome problems on the way towards the goal
- Active dealing with problems instead of giving up
- Dealing with own anxieties and frustrations self-regulation

Frese, M., Gielnik, M. & Mensmann, M. (2016): Psychological Training for Entrepreneurs to Take Action: Contributing to Poverty Reduction in Developing Countries. *Current Directions in Psychological Science*, 25, 196–202

Personal Initiative as Prototypical Active Behavior

- Self-starting
- Future oriented
- Overcoming barriers
- → Changing the environment

The Opposite of Personal Initiative Is the Reactive Approach:

- Does what one is told
- Is oriented only towards now, not future
- Stops when difficulties arise
- → Reacts to environment

Trainings should be based on:

- Action orientation
- Scientific rigor: Which means
 - prior studies on the importance of concepts for success evidence based content
 - Scientific rigor of evaluation: randomized control group design
- Some theoretical understanding of the psychology of training: action principles, the function of the trainer, action feedback, adequate examples, everything is oriented towards tasks of trainees

What does action training mean?

- First day: Start an informal business in groups of 5 on any opportunity; the business should be closed down after 3 months
- Small starting capital that had to returned after 3 months
- Action training means to start with actions, and to discuss actions, feedback, to make mistakes and learn from them and to become better and better
- No top down lectures all ,teaching' is related to their practice right now (their entrepreneurial unit)
- Principles of action readily understandable but still need for training
- Relate everything to the actions in the everyday environment of trainees

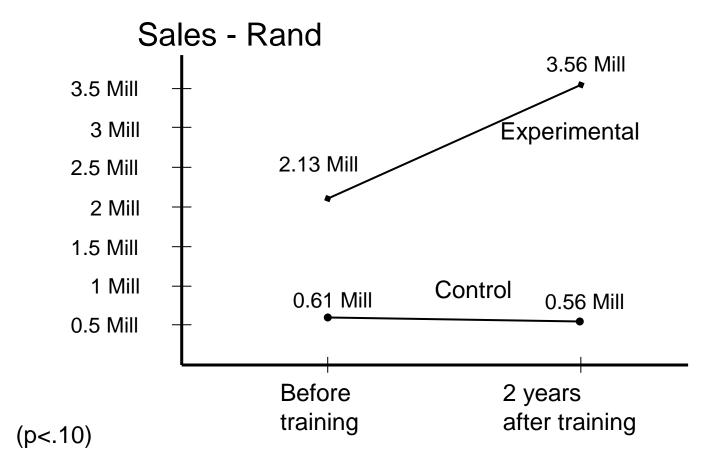
What does rigorous evaluation mean?

- Just like medicine: You want to know that covid vaccination works before you take it how do you know that it really works?
- You do an experiment
- You get interested participants ()ITT intent to treat) in our case students - try to recruit as broadly as possible)
- Random assignment to treatment (medicine for COVID in our case training) and
- And control group
- Random assignment is central and the groups must be large enough of ITT participants - DISCUSS

Trainings should be based on:

- Action orientation
- Scientific rigor: Which means
 - prior studies on the importance of concepts for success evidence based content
 - Scientific rigor of evaluation: randomized control group design
- Some theoretical understanding of the psychology of training: action principles, the function of the trainer, feedback, adequate examples, everything is oriented towards tasks of trainees

Training Study in South Africa





Randomized Controlled Trials: RCT

1) Randomized: Equal starting point for all

2) Controlled: Control group = no effective vaccine often a Placebo (in our case no training)

3) Treatment:= vaccine(In our case personal initiative training)

4) Discuss the magic of randomization for large number of participants (and how it is done)

Action and Action-Regulation in Entrepreneurship: Evaluating a Student Training for Promoting Entrepreneurship

MICHAEL M. GIELNIK Leuphana University of Lüneburg, Germany

MICHAEL FRESE National University of Singapore and Leuphana University, Lüneburg, Germany

> AUDREY KAHARA-KAWUKI Makerere University Business School and Solutions Ltd, Uganda

> > ISAAC WASSWA KATONO Uganda Christian University, Kampala, Uganda

SARAH KYEJJUSA MUHAMMED NGOMA JOHN MUNENE REBECCA NAMATOVU-DAWA FLORENCE NANSUBUGA LAURA OROBIA Makerere University Business School, Kampala, Uganda

> JACOB OYUGI Kyambogo University, Kampala, Uganda

SAMUEL SEJJAAKA ARTHUR SSERWANGA Makerere University Business School, Kampala, Uganda

> THOMAS WALTER GIZ, Arusha, Tanzania

KIM MARIE BISCHOFF THORSTEN J. DLUGOSCH Leuphana University of Lüneburg, Germany

Abidjan Prof Frese

Action plays a central role in entrepreneurship and entrepreneurship education. Based on

STEP training influences the career choices to become entrepreneur in Africa STEP training is used in 11 countries, at 22 Universities and with ca 17,000 BA-students shortly before graduation and ca 800 high school students



Prof. Michael M. Gielnik

Key factors for start-up: confidence, identifying opportunities, action, planning

• What factors explain why some students start a business while others do not?

Identifying Opportunities Entrepreneurial Planning "How many opportunities "What are you planning to for creating a business have do to start the business?" you identified / pursued in the last three months?" **Entrepreneurial Action** Entrepreneurial Confidence "So far, did you do "How confident are you anything to get the that you can [different business up and entrepreneurial tasks] running?" well?"

Trainings should be based on:

- Action orientation
- Scientific rigor: Which means
 - prior studies on the importance of concepts for success evidence based content
 - Scientific rigor of evaluation: randomized control group design
- <u>Some theoretical understanding of the psychology of</u> <u>training: action principles, the function of the trainer,</u> <u>action feedback, adequate examples, everything is</u> <u>oriented towards tasks of trainees</u>

Key principles of Action-Regulation Theory for Training

Developing an action-oriented mental model by teaching **action principles** "Rules of thumbs"; Action principles translate sckientific knowledge into action knowledge that guides behavior

BUT: Not blind and mindless action

Active and exploratory approach: Learning by doing

Transferring action principles to individual business context

Making **errors** and giving and receiving detailed **feedback**

Routinization of new behavior

Exercises and cases to learn how to apply action principles and routinize their application

Oriented towards context: Errors as valuable form of negative feedback for improvement; feedback central for improving actions – learning

New skills developed during the training compete with old skills; counterapproaches and routinization encouraged in exercises and afterwards

Some Empirical Results of Training

The STEP training creates entrepreneurs

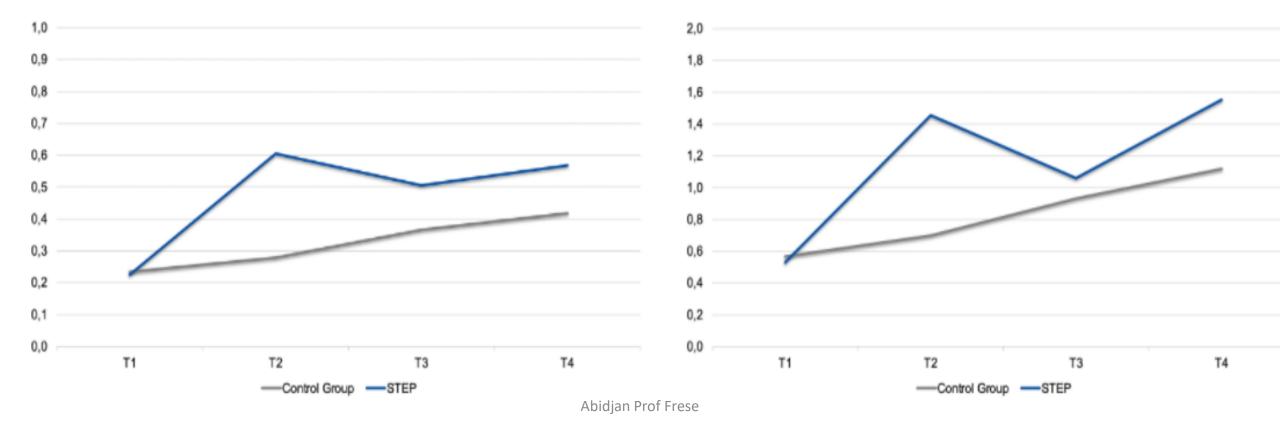
https://step-training.com/the-impact/#1526383833478-69d6d529-4e63) T1= 9000/ T4 =1164, 712 TG 452 CG

More business creation

STEP students own 38% more businesses one year after the training.

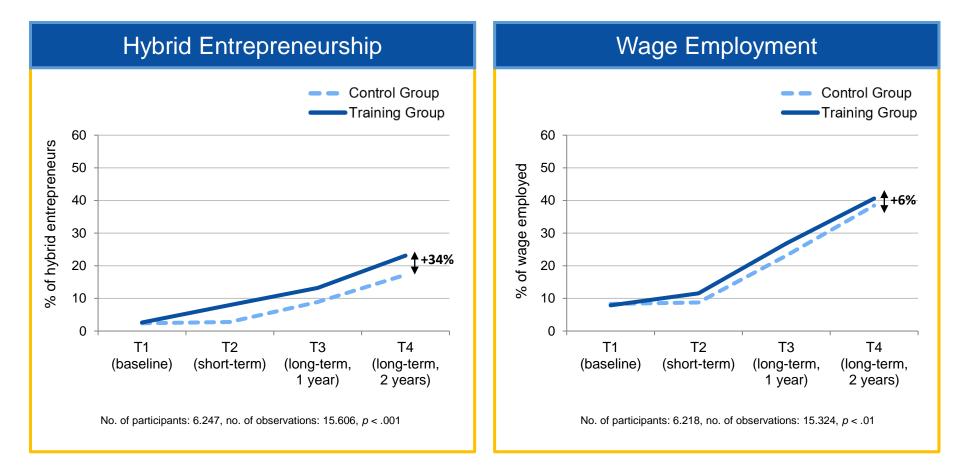
Additional job creation

STEP students create 39% more jobs two years after the training.



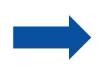


STEP participants pursue an entrepreneurial career in addition to wage employment.

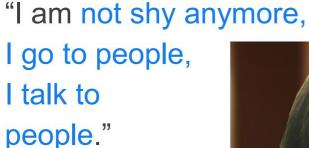


Janet was a typical non-entrepreneur. STEP changed her attitude towards entrepreneurship.

"I never thought of becoming a business owner before the STEP training. This has never been a real option for me."



"I was very shy and it was a big challenge for me approaching people. I thought I won't be able to deal with all those challenges you are facing when you are an entrepreneur."



"The training opened my eyes, it was

a turning point in my life. I don't think

any longer that entrepreneurship is a

challenge that I cannot overcome"



Janet is now a successful portfolio entrepreneur and has started an IT consultancy 24 months after STEP.

Abidjan Prof Frese



Abidjan Prof Frese

Success Case

- produced cheap aluminum saucepans of low quality a highly competitive market in Kampala.
- After training, he decided to switch to higher quality production to target better paying customers and to be different from competitors.
- He went to National Bureau of Standard (NBS) to have his saucepans tested.
- Received detailed feedback on quality deficiencies
- He improved and improved
- finally certified by the NBS
- With the quality certificate, he approached a wholesaler
- He got a large order worth about 10 million Ugandan Schillings→
 kept him and three cooperating firms busy for more than one year

An Example of What Can Go Wrong

Business Edge Training (N=500)

- Accounting and financial management (e.g., records, calculating costs, cash flow management)
- Commercial management and marketing (e.g., importance of customer service, techniques of serving customers better, 4 Ps of marketing, market segmentation, commercial negotiations)
- Human resource management (e.g., understand taxes and the advantages of formalizing business)

Personal Initiative Training (N=500)

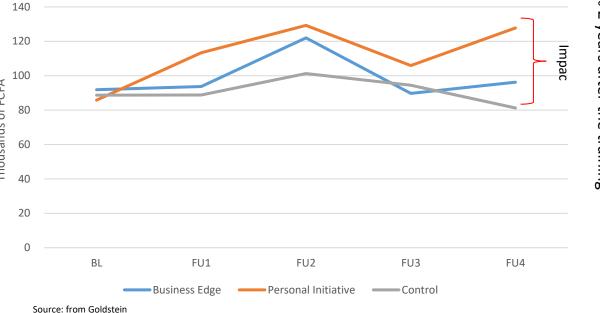
- Self-starting (e.g., identify self-starting behavior and differentiate from reactive behavior; identify reactive behavior)
- Innovation and opportunity identification (e.g., identify own strengths, interests, and resources to generate new ideas, look for unusual information)
- Goal setting (e.g., high and challenging; SMART-PI)
- Financial planning: Bootstrapping, unusual sources of finance, reduce reliance on outside resources (e.g., banks, micro-credits)
- Feedback (e.g., use different sources of feedback, actively look for negative feedback)
- Overcoming barriers (e.g., find creative way to deal with them, do not give up)
- Personal Project: Develop a project for your business of the next 4 6 months, sign a behavioral contractawith each other to implement training principles)

No-Training Control Group (N=500)



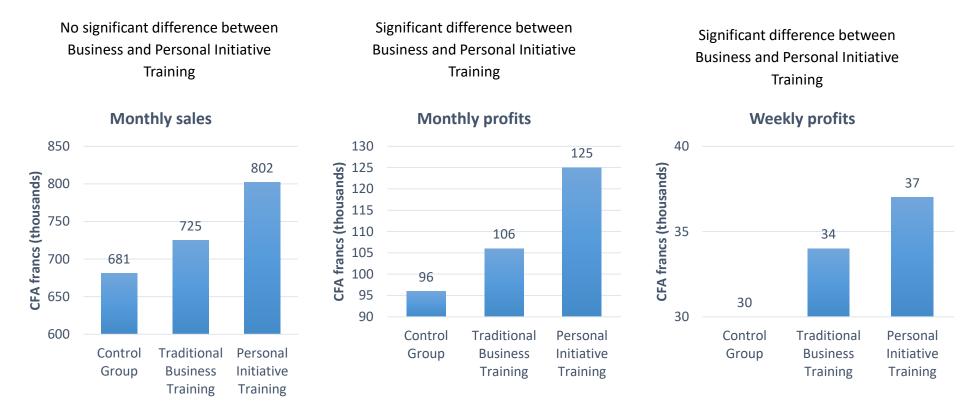
¹ Campos, F., Frese, M., Goldstein, M., Iacovone, L., Johnson, H. C., McKenzie, D., & Mensmann, M. (2017). Teaching personal initiative beats traditional training in boosting small business in West Africa. *Science*, 357(6357), 1287-1290.

Impact of the training on winsorized monthly profits



PI training increased profits by 57% 2 years after the training

Figure 1: Impact of Training Programs on Profitability and Sales



| | Monthly | Monthly | Weekly |
|----------------------|-------------|---------|---------|
| | sales | profits | profits |
| Control Group | 68 | 1 96 | 5 30 |
| Traditional Business | | | |
| Training | 72 | | 5 34 |
| Personal Initiative | Abidjan Pro | f Frese | |
| Training | 80 | 2 125 | 5 37 |

ECONOMICS

Teaching personal initiative beats traditional training in boosting small business in West Africa

Francisco Campos,¹^s Michael Frese,^{2,5}^s Markus Goldstein,¹^s Leonardo Iacovone,¹^s Hillary C. Johnson,¹^s David McKenzie,¹^s Mona Mensmann⁵^s

Standard business training programs aim to boost the incomes of the millions of self-employed business owners in developing countries by teaching basic financial and marketing practices, yet the impacts of such programs are mixed. We tested whether a psychology-based personal initiative training approach, which teaches a proactive mindset and focuses on entrepreneurial behaviors, could have more success. A randomized controlled trial in Togo assigned microenterprise owners to a control group (n = 500), a leading business training program (n = 500), or a personal initiative training program (n = 500). Four follow-up surveys tracked outcomes for firms over 2 years and showed that personal initiative training increased firm profits by 30%, compared with a statistically insignificant 11% for traditional training. The training is cost-effective, paying for itself within 1 year.

Teaching personal initiative beats traditional training in boosting small business in West Africa

By Francisco Campos, Michael Frese, Markus Goldstein, Leonardo Iacovone, Hillary C. Johnson, David McKenzie, Mona Mensmann *Science* 357 (6357), 1287-1290 Figure 2.1: Mechanisms through which training operates

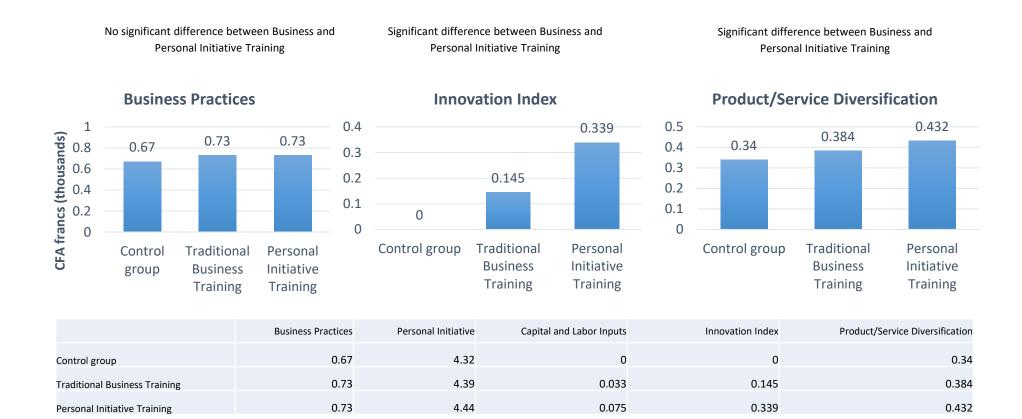


Figure 2.2: Mechanisms through which training operates

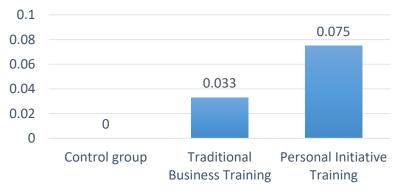
Significant difference between Business and Personal Initiative Training

Significant difference between Business and Personal Initiative Training

Personal Initiative



Capital and Labor Inputs



| | Business Practices | Personal Initiative | Capital and Labor Inputs | Diversification |
|-------------------------------|--------------------|---------------------|--------------------------|-----------------|
| Control group | 0.67 | 4.32 | 0 | 0.34 |
| Traditional Business Training | 0.73 | 4.39 | 0.033 | 0.384 |
| Personal Initiative Training | 0.73 | 4.44 | 0.075 | 0.432 |

A few thoughts on Training so far

- Why is it so important to do randomized controlled experiments (or RCT randomized controlled trial or treatment)?
 - You do not know where differences lie in different groups
 - You may have a selection effect
 - The control group may actually decrease (because of objective sitautions) the environment must be kept the same for experimental and control group
- Why does a training work: The function of mediators
- PI training does not always work
 - E.g. In one study trainers were not very good
 - Combine business training and PI training? It may not work well: Why?
 - Combine different intervention with PI (e.g., micro-credits or farming knowledge) works possibly extremely well (Mozambique project), also data from Zimbabwe on formal and PI
 - Not known whether good for bigger sized firms but PI organizational culture is related to business success (a bit later)
- Why so important to be action oriented in the training examples of normal entrepreneurship training in Business Schools (Meta-analysis by Martin, B. C., McNally, J. J., & Kay, M. J. (2013). Strong correlation between entrepreneurship education and intent to start a company: BUT issue of causality: If they controlled for intent to start at the beginning of their studies, there was not more relationships between entrepreneurship education and intention to start. In other words: Those who wanted to be entrepreneurs participated but there was not effect of education on changes in intention.)
- How long does a PI training work? complex relationships 7 year follow-up in Togo

| Country | N (PI, control group) | Design and Results | Explanation of Results | (pre-)publication |
|----------------|-------------------------------------|---|--|--|
| South Africa I | 27 + 30 Small business owners | Non-randomized group design: 2 groups were compared - PI training, no-treatment group; marginally significant interaction effect (group x time) indicating that PI training had a marginally significant effect on sales two years after the PI training (ca 50% more sales than before and in higher in comparison group), 3 follow-ups; 2 y | Goal-setting knowledge, PI, innovation, proactive planning and goal setting increased more strongly in the PI training group than in the control group | Solomon, G., Frese, M., Friedrich, C. & Glaub, M. (2013). Can personal initiative training improve small business success?. Entrepreneurship and Innovation, 14(4), 255– 268. |
| Uganda | 47 + 53 small business owners | RCT 2 groups were compared - PI training, control group; sales level increased for the PI training group from before the training to one year after the training, sales levels for control group decreased (20% difference); number of employees increased for the PI training group from before the training to one year after the training, number of employees decreased for the control group (ca 50% difference); 3 follow-up measurements (1y) | Personal initiative behavior fully mediated the effect of PI training on business success | Glaub, M. E., Frese, M., Fischer, S. & Hoppe, M. (2014). Increasing Personal Initiative in Small Business Managers or Owners Leads to Entrepreneurial Success: A Theory- Based Controlled Randomized Field Intervention for Evidence-Based Management. Academy of Management Learning & Education, 13(3), 354–1379. |
| Germany | 36 + 97 small business owners | Non-randomized parallel group design: 2 groups were compared - PI training, large non-equivalent comparison group; Growth in number of employees was higher in the PI training group than in the control group (significant interaction between groups and time); for the PI training group the number of employees significantly increased from before the training to one year after the training (by 17%), for the control group there was no significant difference; one follow up measurement (1y) | PI training group showed higher degree of personal initiative after the training than before (not measured in the control group) | Frese, M., Hass, L. & Friedrich, C. (2016). Personal initiative training for small business owners. Journal of Business Venturing Insights, 5, 27–36. |

| Тодо | 500 + 500 + 500 small business owners, intent to treat | RCT: 2 groups were compared - PI training, control; PI participants' profit rate was significantly better than traditional business training and were 30% more successful than the control group; traditional business training was not significantly more successful than controls | More effort, more innovation, more PI in the PI training group; maybe interaction of PI and 4 coaching sessions by trainers | Campos, F., Frese, M., Goldstein, M., Iacovone, L., Johnson, H., McKenzie, D., & Mensmann, M. (2017). Teaching personal initiative beats traditional business training in boosting small business in West Africa. Science, 357, 1287– 1290. |
|--------|--|--|--|--|
| Mexico | Ca 2000 + 2000 | RCT: 2 groups were compared - PI training combined with business literacy programm, control group (2 follow ups, 2 y); Ca 11-13% more profitability per week | Personal initiative increased in comparison to control group, it was correlated with profitability but was not a mediator | Iacovone, L. (2017). Complementing managerial training with soft skills: mid-term results. Retrieved from Washington Talk: |
| | 747 female small business owners somewhat successful | RCT: 3 groups were compared - PI training, Holistic business training, control group; no statistically significant effect of any training on business outcomes and no statistically significant difference between the treatment arms | training approach of the PI training adequately; therefore a new emphasis | Wolf, K., Papineni, S., Alibhai, S., Buehren, N., Frese, M., & Goldstein, M. (2020). Training to take action: Towards understanding the role of trainers. Univ of Lueneburg, unpubl. Manuscript, submitted. |
| | 400+ 400 female small scale business owners | RCT: DOT training (strong similarities to PI training) versus control group; significant effect to DOT training on psychological outcomes and average monthly profits | In contrast to other training in Ehtiopia, DOT trainers were highly motivated university students; suggestive evidence that trainers' own entrepreneurial experiences matter | Alibhai, S., Buehren, N., Frese, M., Goldstein, M., Papineni, S., Wolf, K., (2019). Full Esteem Ahead? Mindset-Oriented Business Training in Ethiopia. Policy Research Working Paper Np. 8892. |
| | 315 + 315 + 315 small business owners | RCT: 3 groups - PI training with a focus on perseverance, PI training combined with business skills training, control group; only PI training with perseverance had positive and statistically significant effects on sales and profits index after three months (about 20% improvement); further analysis showed that the PI training's positive short term effects were only present for male training participants; after twelve months there were no statistically significant effects for any training (2 follow ups; 1 y) | Short term positive effects of PI training were mainly mediated by business practices; no effects on PI; in the combined training, the messages may be muddled because of the emphasis on two different approaches (good business practices and PI) | Ubfal, D., Frese, M., Arraiz, I., Maffioli, A., Beuermann, D. & Verch, D. (2019). The Impact of Soft-Skills Training for Entrepreneurs in Jamaica. IZA Discussion Paper No. 12325. |

| Mozambique | 760 + 740 + female peasants, mainly illiterate | RCT: business training plus agricultural training; agricultural training plus PI, all with follow up c5000aching, control group (500) – group with PI and agricultural training control group highest success | First results show that PI training had a positive effects in comparison to the other two on starting new businesses next to farming | Montalvao, J., Campos, F., Boxho, C., Goldstein, M., Frese, M., Gielnik, M., Scharweit, B., Carneiro, P. |
|---------------------------------|---|---|--|---|
| Democratic Republic of Congo | 1200 + 1200 + 1200 female business owners | RCT: 3 groups are compared – PI training without husband, PI training with husband, control group | No results yet | Ubfal, Vaillant, Gruver, Hafner, M., Erning, E., Frese, M., Goldstein, M. |
| South Africa II | 400 + 400 | RCT: 3 groups are supposed to be compared – PI training + coaching, PI training, control group | application | Meyer, I., du Plessis, M., Mamabolo, A., Motshedisi, M., Rutsch, K., Frese, M., Brüning, T. |
| Ecuador | Ca 20,000 school children | RCT: comparison between PI, negotiation, scientific training and placebo trainings and combinations online PI training compared to other training programmes (negotiation, scientific training, and placebo conditions (Spanish, English)), also role model intervention | Results will soon be analyzed | Side project on time use of school children during Covid (not PI related): Asanov, I., Flores, F., McKenzie, D., Mensmann, M., & Schulte, M. (2021). Remote-learning, time-use, and mental health of Ecuadorian high-school students during the COVID-19 quarantine. World Development, 138, 105225. |
| France | Unemployed job seekers; sample size not yet decided | RCT – comparing PI training and negotiation training and group without training (all participants will have completed the "Activ Crea" programme a program supposed to help unemployed to become entrepreneurs) | Design phase | NA |
| Germany | Solo-self- employed in Germany, N not yet decided | RCT comparing PI group with non-treatement control group | Design phase | NA |
| Bangladesh | Refugees in the Kutupalong refugee camp; N not decided | RCT comparison PI training with effectuation training and non-treatment control groug; | In design phase | NA |

Mozambique partly PI training and partly STEP for developing new enterprise ideas **Personal Initiative Training (STEPPI)**



Group training sessions

9 weekly group sessions of 4 hours: LEPF, discussions, case studies, shared experiences

1st Phase (4 sessions)

Focused on entrepreneurship in farming to complement agricultural extension program

2nd Phase (5 sessions)

Greater emphasis on off-farm entrepreneurship to promote income diversification and growth

B. Scharweit: Enhancing Women Farmers' Personal Initiative in Rural Mozambique, talk Dec 18, 2022 - KINGSTON, JAMAICA

Adaptations in Mozambique

Key differences Togo - Mozambique **Level of Literacy**

- Mostly literate vs high number of illiterates (76%)
- Adaptations:
 - all writing exercises were taken out (but: LEPF!)
 - results of the most important exercises were written down by the trainer on a "Personal Profile Table"
 - worked with an illustrator and developed the story of a local woman (Anangoso) who showed PI in various phases of her life



Business Sectors

- All sectors but agriculture vs agriculture
- Adaptation: Training material adapted to farming contex

Experimenting



Anangoso also knew that it is important to experiment at a small scale and not to risk too much when trying to plant new cash crops. And so she only started to plant tomatoes on a small part of her field.

Agronomic and Agribusiness Practices

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|----------------------------|--------------------|-----------------|----------------|-----------|----------------|-------------------|----------------|
| | Improved seeds (%) | Fertilizers (%) | Pesticides (%) | Mulch (%) | Irrigation (%) | Crop rotation (%) | Dry season (%) |
| AE plus Pl | .161*** | .108** | .128*** | .096*** | .097** | .118*** | .095** |
| | (.042) | (.043) | (.032) | (.020) | (.043) | (.037) | (.042) |
| AE alone | .012 | 032 | .006 | .027 | 039 | .028 | 028 |
| | (.038) | (.042) | (.025) | (.021) | (.042) | (.034) | (.040) |
| Control group mean | .274 | .462 | .138 | .088 | .478 | .313 | .515 |
| Difference <i>p</i> -value | .000 | .001 | .000 | .004 | .001 | .020 | .003 |

Table: Agronomic Practices (Follow-up II)

Table: Agribusiness Practices (Follow-up II)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|----------------------------|----------------|---------------------|---------------------|-------------|-----------|-------------|
| | Cash crops (#) | Production plan (%) | Market research (%) | Savings (%) | Loans (%) | Xitique (%) |
| AE plus Pl | .577*** | .086*** | .082** | .082** | .112*** | .074** |
| | (.115) | (.026) | (.033) | (.036) | (.035) | (.029) |
| AE alone | .156* | .036 | .049 | .022 | 009 | .021 |
| | (.089) | (.026) | (.030) | (.033) | (.033) | (.024) |
| Control group mean | .952 | .709 | .544 | .395 | .307 | .067 |
| Difference <i>p</i> -value | .001 | .061 | .306 | .101 | .000 | .077 |

B. Scharweit: Enhancing Women Farmers' Personal Initiative in Rural Mozambique, talk Dec 18, 2022 - KINGSTON, JAMAICA

Personal Initiative and ESE

ESE= Entrepreneurial Self-efficacy

| Table: Mindset | | | | | |
|----------------------------|---------------------|--------------|-------------|--------------|--|
| | Personal Initiative | | ESE | | |
| | (1) (2) | | (3) | (4) | |
| | Follow-up I | Follow-up II | Follow-up I | Follow-up II | |
| AE plus PI | .281*** | .121 | .248*** | .311*** | |
| | (.056) | (.077) | (.077) | (.067) | |
| AE alone | .086 | .109 | .018 | .108 | |
| | (.058) | (.076) | (.085) | (.066) | |
| Control group mean | 000 | .000 | .000 | 000 | |
| Difference <i>p</i> -value | .002 | .869 | .003 | .005 | |

| | (1) | (2) | (3) |
|----------------------------|----------------|----------------------|-------------------|
| | Wife-owned (%) | Husband-owned $(\%)$ | Jointly-owned (%) |
| AE plus Pl | .066*** | .026* | 028 |
| | (.019) | (.014) | (.019) |
| AE alone | .008 | .010 | 020 |
| | (.018) | (.014) | (.019) |
| Control group mean | .087 | .050 | .089 |
| Difference <i>p</i> -value | .009 | .269 | .637 |

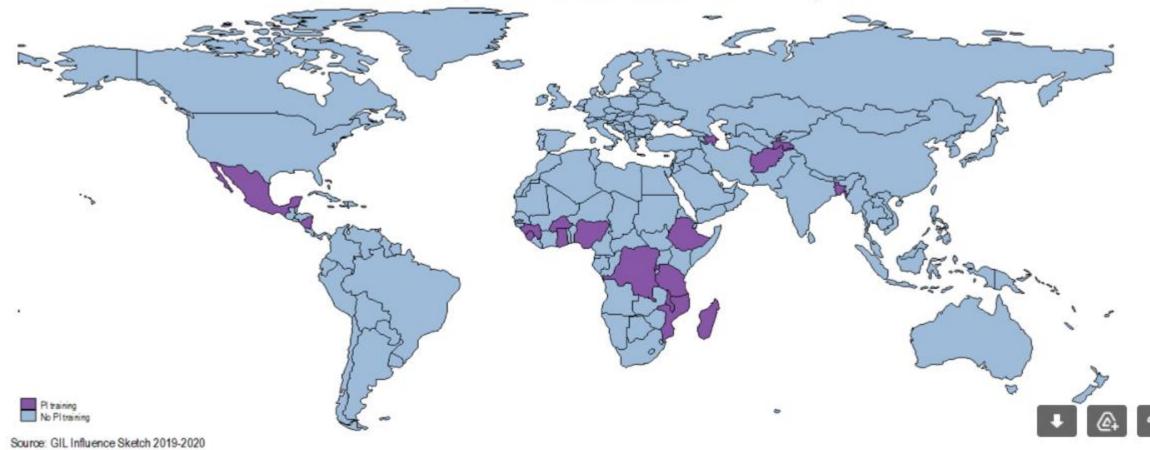
Table: Off-farm Businesses (Follow-up II)

Table: Monthly Incomes and Expenditure (Follow-up II)

| | | (1) | (2) | (3) |
|-------------------------|----------------------------|-----------------|------------------|-------------|
| B. Scharweit: Enhancing | | Value harvested | Business profits | Expenditure |
| Women Farmers' | AE plus PI | 314** | 455 *** | 194* |
| | | (149) | (156) | (101) |
| Personal Initiative in | AE alone | 54 | 159 | 93 |
| Rural Mozambique, talk | | (132) | (102) | (91) |
| Dec 18, 2022 - | Control group mean | 1,947 | 365 | 1,208 |
| KINGSTON, JAMAICA | Difference <i>p</i> -value | .091 | .064 | .351 |

Map of Worldbank on the use of PI training across the world Dec 2021

Countries where GIL personal initiative evidence has been adopted



Frese, M., Gielnik, M. & Mensmann, M. (2016): Psychological Training for Entrepreneurs to Take Action: Contributing to Poverty Reduction in Developing Countries. *Current Directions in Psychological Science*, 25, 196–202

Additional Slides

- Can we predict and produce Black Swan type of success? No. Because of the power curve law in entrepreneurship and because of windsorizing data
- A theoretical explanation dynamic system and critical point of stable disequilibrium
- <u>sandpile</u>: built up, similar grains of sand, when dropped one-by-one, have differential effects—most grains dropped only move one or two grains on the pile
- A few grains have extreme cascading effects, moving hundreds of grains.
- Measured over time, the sizes of all these effects are distributed according to a power law.
- at a critical point, a single new input can cause dramatic change
- addition of one input in a startup (e.g., a company adding a star employee, the presentation of a business plan in Silicon Valley instead of in a university classroom) can sometimes cause a nonlinear avalanche of outcomes.
- increased likelihood of these extreme "black swan" events."

Crawford, G. C., Aguinis, H., Lichtenstein, B., Davidsson, P., & McKelvey, B. (2015). Power law distributions in entrepreneurship: Implications for theory and research. *Journal of Business Venturing, 30*, 969-713. p.12 of prepub

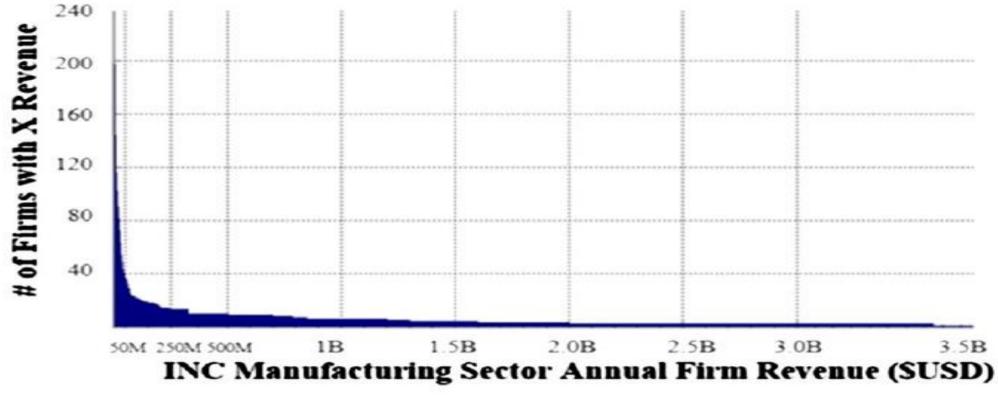
Can we predict and produce Black Swan type of success? No. Because of the power curve law in entrepreneurship and because of windsorizing data

A "theoretical explanation for the presence of PL distributions is Bak and Chen's (1991) self-organized criticality (SOC), which describes a dynamic system that has built up to a critical point of stable disequilibrium. This model is best represented by a sandpile: once the pile has built up, similar grains of sand, when dropped one-by-one, have differential effects—most grains that are dropped only move one or two grains on the pile, while a few grains have extreme cascading effects, moving hundreds of grains. Measured over time, the sizes of all these effects are distributed according to a power law. Thus, when a system is positioned at a critical point, the addition of a single new input can cause dramatic change. In entrepreneurial terms, for a company poised in SOC, the addition of one input (e.g., a company adding a star employee, the presentation of a business plan in Silicon Valley instead of in a university classroom) can sometimes cause a nonlinear avalanche of outcomes. Going further, Newman (2005) showed that in these SOC systems, there is an increased likelihood of these extreme "black swan" events."

Crawford, G. C., Aguinis, H., Lichtenstein, B., Davidsson, P., & McKelvey, B. (2015). Power law distributions in entrepreneurship: Implications for theory and research. *Journal of Business Venturing, 30*, 969-713. p.12 of prepub

From Crawford et al.

e) Manufacturing Sector



Abidjan Prof Frese

Crawford, G. C., Aguinis, H., Lichtenstein, B., Davidsson, P., & McKelvey, B. (2015). Power law distributions in entrepreneurship: Implications for theory and research. *Journal of Business Venturing*, *30*, 969-713



Abidjan Prof Frese

The Opposite of Personal Initiative: Reactive Action Strategy of Business Owner

- Little active preplanning
- Low level of personal initiative
- Low level of active search for opportunities
- Strong amount of mimicking others
- Often rather helpless: I do what others do as well

Frese, M., Gielnik, M. & Mensmann, M. (2016): Psychological Training for Entrepreneurs to Take Action: Contributing to Poverty Reduction in Developing Countries. *Current Directions in Psychological Science*, 25, 196–202

Personal Initiative as Prototypical Active Behavior

- Self-starting
- Future oriented
- Overcoming barriers
- → Changing the environment

The Opposite of Personal Initiative Is the Reactive Approach:

- Does what one is told
- Is oriented only towards now, not future
- Stops when difficulties arise
- → Reacts to environment

The Syndrome of Personal Initiative Consists of 3 Types of Action Characteristics: Self-starting, Future Orientation and Overcoming Barriers

Meaning of Self-Starting

- Self-starting is different from the "normal" or obvious approaches
- Doing the obvious \rightarrow self-starting is low
- Something new and innovation

Meaning of future orientation

- Scanning for opportunities and problems that may appear in the future
- Preparing now for dealing with future problems and exploiting future opportunities
- Actively seeking feedback to enhance long term usefulness of products/services

Meaning of Overcoming Barriers

- Protecting one's goals and adapting one's plans to overcome problems on the way towards the goal
- Active dealing with problems instead of giving up
- Dealing with own anxieties and frustrations self-regulation

Table 1. Crossing action regulation theory and personal initiative theory to develop action principles for the personal initiative training (examples of action principles and learning goals provided)

| | SELF-STARTING | LONG TERM ORIENTATION | OVERCOME BARRIERS |
|------------------------|---|--|---|
| ACTION | Action principle: | Action principle: | Action principle: |
| PLANNING/ EXECUTION | Make plans that allow you to flexibly react to situational demands! | Consider future opportunities and threats and integrate them into your plans! | If you have to leave your plans due to barriers: Get back to them as quickly as possible! |
| | Underlying learning goal: | Underlying learning goal: | |
| | Entrepreneurs shall ensure that they | Entrepreneurs shall detect possible future | Underlying learning goal: |
| | can actively and flexibly react to | conditions that might impact their | Entrepreneurs shall make sure that |
| | market developments | planning | they do not permanently lose track |
| | | | of their plans in case of problems |
| MONITORING / | Action principle: | Action principle: | Action principle: |
| FEEDBACK | Ask former customers why they stopped buying your products! | Ask customers, competitors, and suppliers what they see as biggest challenges and | Don't give up in case you don't find the information that you need! |
| | | opportunities for your business in the | Try other sources of feedback! |
| | Underlying learning goal: | future! | Underwing learning goal: |
| | Entrepreneurs shall actively search | Underlying learning goal: | Underlying learning goal: |
| | for negative feedback as this reveals | Underlying learning goal: | Entrepreneurs shall persist |
| | areas of improvement | Entrepreneurs shall not only focus on the | frustration that arises from setbacks |
| | | present state of their business, but also use | in feedback search |
| | | every possible information to prepare for | |
| | | future business threats and opportunities | |

Table 1. Crossing action regulation theory and personal initiative theory to develop action principles for the personal initiative training (examples of action principles and learning goals provided)

| | SELF-STARTING | LONG TERM ORIENTATION | OVERCOME BARRIERS |
|----------------------------------|---|---|--|
| A CONTRACT | Action principle: | Action principle: | Action principle: |
| ACTION PLANNING/ EXECUTION | Action principle: Make plans that allow you to flexibly react to situational demands! | Action principle: Consider future opportunities and threats and integrate them into your plans! | If you have to leave your plans due to barriers: Get back to them as quickly as possible! |
| | Underlying learning goal: | Underlying learning goal: | |
| | Entrepreneurs shall ensure that they can actively and flexibly react to market developments | Entrepreneurs shall detect possible future conditions that might impact their | <i>Underlying learning goal:</i> Entrepreneurs shall make sure that |
| | market developments | planning | they do not permanently lose track of their plans in case of problems |
| MONITORING/ | Action principle: | Action principle: | Action principle: |
| FEEDBACK | Ask former customers why they stopped buying your products! | Ask customers, competitors, and suppliers what they see as biggest challenges and opportunities for your business in the | Don't give up in case you don't find the information that you need! Try other sources of feedback! |
| | Underlying learning goal: | future! | |
| | Entrepreneurs shall actively search | | Underlying learning goal: |
| | for negative feedback as this reveals | Underlying learning goal: | Entrepreneurs shall persist |
| | areas of improvement | Entrepreneurs shall not only focus on the present state of their business, but also use every possible information to prepare for | frustration that arises from setbacks in feedback search |
| | | future business threats and opportunities | |

Mensmann, M., & Frese, M. (2017). Proactive behavior training: Theory, design, and future directions. In S. K. Parker & U. K. Bindl (Eds.), *Makings things happen in organizations* (ppF434-468). New York City: Routledge.

You tube success stories

- We also have some testimonials on the positive impact of STEP from students who have participated in the STEP trainings:
- <u>https://www.youtube.com/watch?v=AiyF-R20ywQ</u>
- https://www.youtube.com/watch?v=t9FFZF7X7RM

Selected Publications

• Campos, F., Frese, M., Goldstein, M., Iacovone, L., Johnson, H., McKenzie, D., Mensmann, M. (2017 in press). Teaching personal initiative beats traditional business training in boosting small business in West Africa. *Science*.

• Frese, M., Gielnik, M. M., & Mensmann, M. (2016). Psychological training for entrepreneurs to take action: Contributing to poverty reduction in developing countries. *Current Directions in Psychological Science*, *25(3)*, *196-202*.

• Frese, M. (2009). Towards a psychology of entrepreneurship: An action theory perspective. *Foundations and Trends in Entrepreneurship, 5,* 435–494.

• Frese, M., Bausch, A., Schmidt, P., Rauch, A., & Kabst, R. (2012). Evidence-based Entrepreneurship (EBE): Cumulative science, action principles, and bridging the gap between science and practice. *Foundations and Trends in Entrepreneurship*, *8*, *1–62*.

• Gielnik, M. M., Frese, M., Graf, J. M., & Kampschulte, A. (2012). Creativity in the opportunity identification process and the moderating effect of diverse information. *Journal of Business Venturing*, *27*, *127–142*.

• Gielnik, M. M., Barabas, S., Frese, M., Namatovu-Dawa, R., Scholz, F. A., Metzger, J. R., et al. (2014). A temporal analysis of how entrepreneurial goal intentions, positive fantasies, and action planning affect starting a new venture and when the effects wear off. *Journal of Business Venturing*, 29, 755-772.

• Gielnik, M. M., Krämer, A.-C., Kappel, B., & Frese, M. (2014). Antecedents of business opportunity identification and innovation: Investigating the interplay of information processing and information acquisition. *Applied Psychology: An International Review, 63, 344-381.*

Gielnik, M. M., Frese, M., Kahara-Kawuki, A., Katono, I. W., Kyejjusa, S., Munene, J., et al. (2015). Action and action-regulation in entrepreneurship: Evaluating a student training for promoting entrepreneurship. *Academy of Management Learning & Education, 14, 69–94.*Glaub, M., Frese, M., Fischer, S., & Hoppe, M. (2014). Increasing personal initiative in small business managers/owners leads to entrepreneurial success: A theory-based controlled randomized field intervention for evidence based management. *Academy of Management Learning & Education, 13, 354-379.*

• Mensmann, M., & Frese, M. (2017). Proactive behavior training: Theory, design, and future directions. In S. K. Parker & U. K. Bindl (Eds.), *Makings things happen in organizations (pp. 434-468). New York City: Routledge.*

•Frese, M., Krauss, S., Keith, N., Escher, S., Grabarkiewicz, R., Luneng, S. T., et al. (2007). Business Owners' Action Planning and Its Relationship to Business Success in Three African Countries. *Journal of Applied Psychology*, *92*, *1481-1498*.

• Frese, M., Hass, L., & Friedrich, C. (2016). Personal initiative training for small business owners. *Journal of Business Venturing Insights*, *5*, 27-36.

• Rauch, A., Frese, M., Wang, Z.-M., Unger, J., Lozada, M., Kupcha, V., et al. (2013). National culture and cultural orientations of owners affecting the innovation-growth relationship in five countries. *Entrepreneurship & Regional Development: An International Journal*, 25, 732-755.

•Unger, J. M., Keith, N., Hilling, C., Gielnik, M. M., & Frese, M. (2009). Deliberate practice among South African small business owners: Relationships with education, cognitive ability, knowledge, and success. *Journal of Occupational and Organizational Psychology*, *82*, 21-44.

•Utsch, A., & Rauch, A. (2000). Innovativeness and initiative as mediators between achievement orientation and venture performance. *European Journal of Work and Organizational Psychology*, *9*, 45-62.

•Zhao, X.-Y., Frese, M., & Giardini, A. (2010). Business owners' network size and business growth in China: The role of comprehensive social competency. *Entrepreneurship & Regional Development*, 22, 675–705.