

Proactivity Against Poverty:

Personal Initiative Training and Its Impact on Entrepreneurial Success in

Developing Countries

You cannot teach a man anything; you can only help him find it within himself.

Galileo Galilei

Proactivity Against Poverty:
Personal Initiative Training and Its Impact on Entrepreneurial Success in
Developing Countries

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Abstract

Micro- and small enterprises are of great importance for the economic growth in developing countries, as they contribute to employment creation and innovation. In light of their economic relevance, several approaches to support micro- and small enterprises have emerged, including building human capital through business trainings. However, the effects of existing business trainings on entrepreneurial success have so far been limited. One promising alternative training approach that has emerged in the last years is personal initiative training, which teaches self-starting, future-oriented, and persistent entrepreneurial behavior. This dissertation helps to improve the understanding of personal initiative training by shedding light on the mechanisms through which it affects business success, on supporting factors, and on its long-term impacts.

Chapter 1 provides an overview on the topic of personal initiative training for entrepreneurs in developing countries. Chapter 2 introduces personal initiative training and other proactive behavior trainings in various contexts of work, including entrepreneurship. The chapter presents action regulation theory and the theory on personal initiative as the theoretical foundation of the training. In addition, the chapter provides insights into training and evaluation methods and makes recommendations for the successful implementation of personal initiative training. Chapter 3 offers a first answer to the question how personal initiative after training can be maintained over time. The chapter introduces training participants' need for cognition as beneficial factor for post-training personal initiative maintenance. Chapter 4 explains how action regulation trainings like personal initiative training contribute to poverty reduction in developing countries by supporting entrepreneurial success. Chapter 5 enlarges upon the topic of personal initiative training for entrepreneurial success in developing countries. The chapter focuses on how personal initiative training supports female entrepreneurs in developing countries by helping them to overcome the uncertainty involved in entrepreneurial actions. Chapter 6 summarizes the overall findings and illustrates the theoretical and practical implications that result from this dissertation.

In sum, this dissertation makes a contribution to the better understanding of personal initiative training and its effects on entrepreneurship in developing countries and thereby helps to create effective interventions to combat poverty in developing countries.

Zusammenfassung

Mikro- und Kleinunternehmen sind von enormer Bedeutung für die wirtschaftliche Entwicklung in Entwicklungsländern, da sie zur Schaffung von Arbeitsplätzen und zu Innovation beitragen. Angesichts ihrer wirtschaftlichen Relevanz wurden zahlreiche Ansätze zur Unterstützung von Mikro- und Kleinunternehmen entwickelt, einschließlich des Aufbaus von Humankapital durch Unternehmertrainings. Die Effekte bestehender Unternehmertrainings auf unternehmerischen Erfolg sind bisher jedoch begrenzt. Ein vielversprechender alternativer Trainingsansatz, der in den letzten Jahren entstanden ist, ist Eigeninitiative-Training, welches selbststartendes, zukunftsorientiertes und persistentes unternehmerisches Verhalten lehrt. Diese Dissertation leistet einen Beitrag dazu das Verständnis von Eigeninitiative-Training zu verbessern, indem sie zugrundeliegende Wirkmechanismen, unterstützende Faktoren und Langzeiteffekte des Trainings auf geschäftlichen Erfolg beleuchtet.

Kapitel 1 liefert einen Überblick über das Thema Eigeninitiative-Training für Unternehmer in Entwicklungsländern. Kapitel 2 stellt das Eigeninitiative-Training und andere Trainings für proaktives Verhalten in unterschiedlichen Arbeitskontexten vor, einschließlich des unternehmerischen Kontexts. Das Kapitel stellt die Handlungsregulationstheorie und die Theorie zu Eigeninitiative als theoretische Basis des Trainings dar. Zusätzlich liefert das Kapitel Einblicke in Trainings- und Evaluations-Methoden und spricht Empfehlungen für die erfolgreiche Implementierung von Eigeninitiative-Training aus. Kapitel 3 gibt eine erste Antwort auf die Frage wie Eigeninitiative nach dem Training über die Zeit aufrechterhalten werden kann. Das Kapitel stellt das Kognitionsbedürfnis von Trainingsteilnehmern als förderlichen Faktor für die Aufrechterhaltung von Eigeninitiative nach dem Training dar. Kapitel 4 erklärt wie handlungstheoretische Trainings, beispielsweise das Eigeninitiative-Training, zur Armutssenkung in Entwicklungsländern durch die Unterstützung von unternehmerischem Erfolg beitragen. Kapitel 5 vertieft das Thema der Unterstützung von unternehmerischem Erfolg in Entwicklungsländern durch Eigeninitiative-Training. Das Kapitel fokussiert sich auf die Frage wie Eigeninitiative-Training weibliche Unternehmer in Entwicklungsländern unterstützt, indem es ihnen hilft, die Unsicherheiten unternehmerischen Handelns zu überwinden. Kapitel 6 fasst die übergreifenden Befunde zusammen und stellt die theoretischen und praktischen Implikationen dar, die aus dieser Dissertation resultieren.

Zusammenfassend leistet die Dissertation einen Beitrag zum besseren Verständnis des Eigeninitiative-Trainings und seiner Effekte auf Unternehmertum in Entwicklungsländern und hilft dadurch, effektive Interventionen zur Bekämpfung der Armut in Entwicklungsländern zu entwickeln.

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1. General Introduction

1.1 The Importance of Entrepreneurship in Developing Countries

Entrepreneurship, defined as the discovery, evaluation, and exploitation of opportunities to create new products and services (Shane & Venkataraman, 2000), has tremendous beneficial impacts on employment, innovation, and welfare around the globe (Acs, Desai, & Hessels, 2008; Baumol, 2002; Hafer, 2013; van Praag & Versloot, 2007; Wennekers & Thurik, 1999). Scholars describe the entrepreneur as the “main vehicle of development” (Anokhin, Grichnik, & Hisrich, 2008, p. 117) or the “engine of economic growth” (Holcombe, 1998, p. 60). Despite an increasing interest in the topic of entrepreneurship, only a limited number of studies deal with the antecedents and outcomes of entrepreneurship in developing countries. Most of the knowledge on entrepreneurship stems from research in advanced economies (Naudé, 2010) and entrepreneurship in developing countries remains one of the most understudied significant phenomena that affect our world (Naudé, 2008). Quantitative research in particular on entrepreneurship in developing countries is missing (Bruton, Ketchen, & Ireland, 2013).

The limited research on entrepreneurship in developing countries is surprising given that entrepreneurship is of particular relevance for economic prosperity in developing countries (Bruton et al., 2013; Goedhuys & Sleuwaegen, 2010). In developing countries, micro- and small enterprises employ a higher share of the working population than in industrialized countries, as developing countries heavily rely on small-scale productions (Nichter & Goldmark, 2009; Tybout, 2000). Micro- and small entrepreneurship therefore constitutes the main source of income in low- and middle income countries (Gollin, 2002; McKenzie & Woodruff, 2016).

Although micro- and small enterprises are important for economic development in developing countries, they oftentimes show limited growth rates and business success. Only very

few entrepreneurs in developing countries expand or attain substantial growth (Nichter & Goldmark, 2009). Female-led businesses show even lower growth rates and are less profitable than those led by men (Jennings & Brush, 2013). Moreover, research reveals that entrepreneurial innovation in developing countries is urgently needed (Kelley, Singer, & Herrington, 2015). Thus, the detection and promotion of entrepreneurship-enhancing factors is necessary for economic development in developing countries.

Scholars have identified particular factors that support entrepreneurial success, including: economic conditions, such as the availability of financial capital (DeMel, McKenzie, & Woodruff, 2008); social support, such as encouragement by significant others or friends and family in business (Davidsson & Honig, 2003); and individual factors, such as beneficial personality characteristics (Zhao & Seibert, 2006), entrepreneurial knowledge (Shane, 2000), and motivational factors (Baron, 2008; Frese, 2009). The investigation of individual factors that support entrepreneurial success becomes increasingly relevant in entrepreneurship research (Frese, 2009).

1.2 Proactive Behavior as an Essential Success Factor in Entrepreneurship

This dissertation builds on the conviction that proactive behavior is one of the most essential individual factors driving entrepreneurial success. Proactive behavior refers to “making things happen” (Parker & Bindl, 2017, p. 1) by actively influencing one’s environment in order to create the future the individual intends to live in (Parker, Bindl, & Strauss, 2010). In times of highly dynamic work environments, individuals from all groups of the working population have to show proactive behavior to keep pace with their work requirements. Empirical evidence demonstrates the beneficial influence of different proactive behaviors on work outcomes in

various work settings. Studies on work performance and individual as well as organizational success reveal the importance of feedback seeking (Ashford & Tsui, 1991; Chen, Lam, & Zhong, 2007; Huang, 2012), voice behavior (Morrison & Milliken, 2000; van Dyne & LePine, 1998), job-crafting (Bakker, Tims, & Derks, 2012; Chen, Yen, & Tsai, 2014), and personal initiative (Glaub, Frese, Fischer, & Hoppe, 2014; Hakanen, Perhoniemi, & Toppinen-Tanner, 2008).

In entrepreneurship, showing proactive behavior is particularly crucial for business success (Frese, 2009; Shepherd, 2014). The key to successful entrepreneurship is the active entrepreneur who discovers, evaluates, and exploits entrepreneurial opportunities (Shane & Venkataraman, 2000). Especially in smaller businesses, entrepreneurs are oftentimes on their own with regard to business decisions and activities, forcing them to become active in order to succeed in their businesses. Thus, the proactive entrepreneurial behavior should be the starting point when investigating entrepreneurship (Frese, 2009).

Entrepreneurs' proactive behavior has at least two major benefits. First, proactive behavior helps to spark opportunity identification and exploitation (Ardichvili, Cardozo, & Ray, 2003; Shepherd, 2014). In contrast to reactive entrepreneurs who just respond to market developments, proactive entrepreneurs constantly identify and seize future opportunities that help them to differentiate their businesses from their competitors (Frese & Gielnik, 2014). This behavior eventually results in increased business success (Lieberman & Montgomery, 1988). Second, proactive behavior helps to deal with the uncertainty that entrepreneurs have to overcome while managing their businesses. Entrepreneurial activities typically take place under uncertain environmental conditions (McMullen & Shepherd, 2006). Proactive entrepreneurs are future-focused and anticipate possible future threats and opportunities (Parker & Bindl, 2017). Therefore, they are better prepared for the potential problems that might affect their business and

opportunities that strengthen their competitive advantage. Proactive entrepreneurs also persist in the face of barriers (Frese & Fay, 2001). As a consequence, they can better cope with unforeseen events that necessarily occur during their business activities.

1.3 The Benefits of Training for Proactive Behavior

The importance of proactive behavior for entrepreneurial success raises the question whether proactive behavior can be supported. To date, competing perspectives with regard to the stability and possibility to influence proactive behavior exist: Some scholars argue that proactivity is a rather stable disposition (Bateman & Crant, 1993; Crant, 2000) and there is empirical evidence that a proactive personality has influence on proactive behavior and work success (Seibert, Crant, & Kraimer, 1999; Thompson, 2005). However, research also shows that proactive behavior is a behavioral construct that is reactive to environmental conditions and can be modified (Bindl & Parker, 2011; Frese & Fay, 2001; Grant & Ashford, 2008). Recent research suggests that proactive behavior results from reciprocal relationships between individuals' proactive disposition and environmental conditions (Li, Fay, Frese, Harms, & Gao, 2014). Thus, the detection and promotion of favorable environmental conditions is useful to support proactive behavior. Studies have identified different environmental factors that foster proactive behavior, including supportive leaders and coworkers, job control and autonomy (Frese, Garst, & Fay, 2007), and a climate of situational ambiguity (Grant & Ashford, 2008).

Proactive behavior training has emerged as a particularly beneficial supporting factor for proactive behavior in different work contexts (Eden & Aviram, 1993; Glaub et al., 2014; Raabe, Frese, & Beehr, 2007; Strauss & Parker, 2015). One proactive behavior training in the context of entrepreneurship is personal initiative training (Glaub et al., 2014). The training aims at fostering

personal initiative in entrepreneurial actions. Personal initiative is proactive behavior characterized by being self-starting, future-oriented, and persistent (Frese & Fay, 2001), and has been shown to be an effective means to foster entrepreneurial success in developing countries, where the promotion of entrepreneurial success is needed the most. Empirical studies in the context of entrepreneurship in developing countries illustrate that personal initiative training leads to business success, reflected by an increase in sales and the number of employees (Glaub et al., 2014; Solomon, Frese, Friedrich, & Glaub, 2013).

1.4 Goals of this Dissertation

This dissertation deals with personal initiative training for entrepreneurial success in developing countries. Building on previous research regarding proactive behavior training (Glaub et al., 2014; Raabe et al., 2007) and the literature on entrepreneurship support (Naudé, 2010) and with the help of empirical evidence from a randomized controlled field experiment with 1500 micro-entrepreneurs in Togo, I aim to make two important overall contributions.

First, I seek to provide more profound insights into the effective training of personal initiative and other proactive behaviors in entrepreneurial settings. Thereby, I integrate the knowledge on proactive behavior trainings in different fields of work, and theoretically explain how proactive behavior, such as personal initiative, can be promoted with the help of training. I also give insights into the transfer of personal initiative to the work setting after training. Existing research in this field has so far concentrated on how to induce proactive behavior. However, there is a lack of knowledge on how proactive behavior can be maintained subsequent to training. In this dissertation, I make a first attempt to investigate the supporting factors that

help to maintain personal initiative after training. To deepen the knowledge on personal initiative training, I will answer the following two questions in this dissertation:

1. How should personal initiative training be designed and conducted in order to effectively promote personal initiative in different work contexts, including entrepreneurship?
2. Which trainee characteristics support post-training personal initiative maintenance?

Second, I want to provide further insights into ways to support entrepreneurial success in developing countries and thereby contribute to the knowledge on how to combat poverty in developing countries. In light of the fact that female entrepreneurs are in special need of entrepreneurial support (Kelley, Brush, Greene, & Litovsky, 2013) and that traditional business trainings often fail to support female entrepreneurial success (Berge, Bjorvatn, & Tungodden, 2015; Bulte, Lensink, & Vu, 2016; Karlan & Valdivia, 2011; McKenzie & Woodruff, 2014), I focus on the psychological mechanisms that foster female entrepreneurs' success after personal initiative training. To contribute to the knowledge on entrepreneurial support in developing countries, I answer these additional two research questions:

3. How can action-centered interventions like personal initiative training foster entrepreneurial success and thereby contribute to poverty reduction in developing countries?
4. Through which psychological mechanisms does personal initiative training foster female entrepreneurs' business success in developing countries?

1.5 Outline of this Dissertation

This dissertation comprises four manuscripts, each presented in a different chapter. Chapter 2 (“Proactive behavior training: Theory, design, and future directions”) introduces personal initiative training and provides a more comprehensive understanding of its underlying training rationale and methods. The chapter explains the training’s theoretical foundation on action regulation theory (Frese, 2009; Frese & Zapf, 1994; Hacker, 1998) and the theoretical framework of personal initiative (Frese & Fay, 2001). It also describes the training methodology of personal initiative training and outlines evaluation procedures. Moreover, the chapter provides insights into the value of personal initiative training and other proactive behavior trainings for different work contexts, including their beneficial impact on entrepreneurial success. The chapter closes with recommendations for future research, including the necessity to investigate the impact of trainee characteristics on personal initiative training outcomes.

Chapter 3 (“When thoughts support action: The influence of need for cognition on post-training maintenance of personal initiative”) focuses on the maintenance of personal initiative after training and provides profound insights into the relevance of trainee characteristics in this regard. To date, there is a lack of knowledge about the factors that contribute to the maintenance of personal initiative subsequent to training. Accordingly, the chapter focuses on need for cognition, defined as a relatively stable tendency to engage in and enjoy cognitive activities (Cacioppo & Petty, 1982; Cacioppo, Petty, Feinstein, & Jarvis, 1996). Based on a randomized controlled field experiment, it shows that need for cognition, constitutes a personal characteristic that helps trainees to maintain post-training personal initiative.

Chapter 4 (“Psychological training for entrepreneurs to take action: Contributing to poverty reduction in developing countries”) focuses on the impact of personal initiative training

and another action regulation theory based training on entrepreneurial behavior and entrepreneurial success in developing countries. The chapter explains why action focused trainings like personal initiative training help to foster entrepreneurship and thereby contribute to poverty reduction, which is one of the major global challenges of our time.

Chapter 5 (“From caring to daring: How personal initiative training impacts female entrepreneurs’ business success in developing countries”) empirically investigates the psychological mechanisms through which personal initiative training fosters female entrepreneurs’ business success in developing countries, using a randomized controlled field experiment. The chapter builds on social role theory (Eagly, 1987; Eagly, Wood, & Diekmann, 2000; Wood & Eagly, 2002) and the process model of entrepreneurial action (McMullen & Shepherd, 2006). It explains how personal initiative helps female entrepreneurs to overcome their self-concept as caretakers and the associated uncertainty to take entrepreneurial action, thereby increasing their business success.

Chapter 6 summarizes the main findings and discusses general theoretical and practical implications that result from this dissertation.

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2. Proactive Behavior Training: Theory, Design, and Future Directions²

Abstract

The present chapter deals with training for personal initiative, one of the most important proactivity constructs. Based on the facet model of personal initiative and action regulation theory, the chapter gives an outline of the theoretical background of personal initiative training and describes possible training designs for the increase of personal initiative and work performance. It also addresses current challenges of personal initiative training and proposes possible solutions to face them. The chapter closes with recommendations for further investigation and improvement of personal initiative training.

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2.1 Introduction

The following chapter describes a *contradictio in adiecto*. Its title “Proactive Behavior Training” promises that it is possible to train people to become more proactive. Training is typically done by a trainer – thus, a trainer causes change in other people’s behavior. He or she often instructs training participants to model behavior and trainees are supposed to follow given instructions. What if the goal is to teach people not to follow what others suggest and to start actions themselves instead?

We answer this question by portraying important elements of personal initiative training. Personal initiative is conceptualized as proactive behavior (Bindl & Parker, 2010; Grant & Ashford, 2008). The term “personal initiative” is a good term for proactive behavior because it is clearly a behavioral term. Personal initiative implies that people act in a self-starting way, that they prepare their actions for the long term, and that they overcome barriers on the way towards their goals (Frese & Fay, 2001).

Although recent research has shown the long-term effect of situational variables like job demand and job control on proactive personality (Li, Fay, Frese, Harms, & Gao, 2014), proactive personality is defined as a personality trait that is relatively independent from outside influences (Bateman & Crant, 1993) and therefore difficult to change. Proactive personality is highly related to the Big Five (Tornau & Frese, 2013) and it has a genetic base (Li, Song, Arvey, & Zhang, 2013). In contrast, proactive behavior, and more specifically personal initiative behavior, is changeable. For example, it is changeable as a result of modification in work conditions (Frese, Garst, & Fay, 2007). In this chapter, we concentrate on how to train personal initiative with the help of a training approach based on action regulation theory (Frese, 2009; Frese, & Zapf, 1994; Hacker, 1998; Zacher & Frese, in press).

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We think of training a behavior and observing the effects of this training as the ultimate proof of a behavioral theory (Frese & Fay, 2001). We also urge other theorists to think in the same way. As long as we have not shown that a change in a relevant variable (such as personal initiative) changes putative dependent variables, we have only scratched the surface to provide causal proof for a relationship. Even longitudinal studies often still allow alternative causal interpretations (often of the “third variable”- type). Therefore, it was important for us to utilize a randomized controlled group design to assess the effects of personal initiative training (Glaub, Frese, Fischer, & Hoppe, 2014) which together with other training studies in this area is going to be described in this chapter. We also shed light on the limitations of personal initiative training and give scientific and practical recommendations on how to design and investigate personal initiative training in the future.

2.2 The Sequence of Actions

As personal initiative describes proactive behavior, it has to be embedded in an individual’s actions. Actions are behaviors oriented towards a goal. In line with action regulation theory (Frese, 2009; Frese, & Zapf, 1994, Hacker, 1998; Zacher & Frese, in press), every action process starts with a goal (see Table 2.1). The next step is the search for important information necessary to reach the goal and the conscious, as well as unconscious elaboration of plans. Plans work as action programs and structure how to reach the selected goal. They function as a bridge between thoughts and action (Gollwitzer, 1999; Miller, Galanter, & Pribram., 1960). When people put plans into practice, they receive feedback concurrently to acting and after an action cycle. People are able to use feedback to adapt their behavior by comparing intended and performed action.

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The action sequence should not be conceptualized as fixed phases that have to follow a certain order. Far from it, goal setting, information search, planning, executing and feedback can and often do occur in a scrambled sequence. We only suggest that all of these aspects of the action sequence are important for action. An action sequence can return to earlier phases of the sequence. For example, after having set a goal and developed a plan, people might already search for feedback on the planning before the execution of actions.

2.3 Personal Initiative

To explain personal initiative in human actions we build on the facet model of personal initiative (Frese & Fay, 2001). According to the facet model, personal initiative consists of three components. Individuals who show personal initiative act in a (1) self-starting, (2) future oriented and (3) persistent way throughout the action process. Thus, personal initiative constitutes the opposite of passive and reactive behavior (Grant & Ashford, 2008).

Acting in a self-starting way means that individuals start actions themselves without waiting for instructions from outside or simply reacting to personal role requirements resulting from the various work roles (Frese & Fay, 2001). Also, taking up ideas that are “in the air” would not count as personal initiative (however, improving those ideas, can very well be an example of personal initiative). A secretary, for example, shows self-starting working behavior when her superior asks her to correct the grammar of an e-mail and she does not just improve the grammar, but makes a suggestion concerning the contents of the e-mail to improve its quality.

Future oriented behavior involves the consideration of and preparation for possible future set-backs and opportunities (Frese & Fay, 2001). An example for someone showing future oriented behavior is an entrepreneur who anticipates future product or service trends in his sector

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in order to avoid declining sales figures for his company. Originally, we called the component of future oriented behavior “proactive behavior” (in line with the original Latin concept of “pro” meaning for and before). This has produced some confusion, because Frese and Fay (2001) used the term for a subset of personal initiative, while the rest of the literature (e.g., Bindl & Parker, 2010) used personal initiative as a subset of proactivity. We now also refer to proactivity as the more general term.

Persistence constitutes the third component of personal initiative (Frese & Fay, 2001). Personal initiative leads to changes and changes most often co-occur with problems and obstacles. Showing persistence means that the individual confronted with a problem does not give up when internal or external barriers appear. Internal barriers are barriers inside the individual, for example, frustration or lack of motivation to continue. External barriers are caused by the environment, for example, shortage of money or the lack of access to important information. Being rejected by a potential employer, for instance, can lead to internal barriers for a jobless person in terms of feelings of uselessness. This may make the unemployed stop his or her job search. In contrast, when confronted with barriers, a persistent person puts extra effort into the continuation of job search. Studies by Duckworth, Peterson, Matthews and Kelly (2007) about persistence to which they refer as “grit” underline its importance as crucial factor for success in many different settings.

We see the three components of personal initiative as not isolated from each other. They constitute a positive syndrome of behaviors that are mutually interdependent (Frese & Fay, 2001). Thinking about future problems and opportunities initiates self-starting behavior and the will to overcome barriers. On the other hand, starting an action in a self-starting way gives new perspectives on how an individual can prepare for the future and increases persistence. Finally,

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persistence leads to new self-starting actions and stimulates the consideration of future problems and opportunities as this helps to overcome further obstacles.

The most proximal antecedents of personal initiative are orientations (Frese & Fay, 2001). Orientations are of medium specificity; that is that they are neither general personality traits, nor specific attitudes towards a concrete task (Frese & Fay, 2001). Orientations shown to affect personal initiative are control appraisals, self-efficacy beliefs, control and responsibility aspirations, change orientation, handling of errors, and active coping (Frese & Fay, 2001).

Control appraisals, self-efficacy beliefs, control, and responsibility aspirations lead people to believe that they can control a situation and that they have an impact on several outcomes (Folkman, 1984). Self-efficacy is the belief in ones capability to effectively display functional behaviors (Bandura, 1997). Control and responsibility aspirations describe peoples' readiness to accept responsibilities that result from the perceived control they have (Frese & Fay, 2001). We think that taking on responsibility is particularly important in the context of small businesses, as well as in the area of unemployment. All too often, the call for outside help, be it to the state (as in some Western countries), some donor (as in developing countries) or the family (as in collectivist countries), is an attempt to dodge the responsibilities for one's own well-being. The foundation of personal initiative and its action orientation implies that people have to be responsible for their own situation. Thus, waiting for others or for a better environment, or hoping for other people to intervene, is often dysfunctional. Rather one should pursue one's own goals, take whatever help one is getting, but never relinquish the responsibility to others. Taking over responsibility is one key premise of personal initiative. Control cognitions (such as taking responsibility, control expectation for outcomes and for one's actions) have been shown to be causal mediators in the process of work characteristics and how they influence personal initiative

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(Frese, Garst, & Fay, 2007). However, they also influence the work characteristics directly and indirectly – this means that there are cycles in the sense of positive cycles that lead to higher personal initiative and downwards cycles that lead to a reduction of personal initiative (Frese et al., 2007).

The other three orientations - change orientation, handling of errors and active coping - help to deal with potential negative consequences of personal initiative (Frese & Fay, 2001). Personal initiative often leads to changes and change orientation prevents individuals from developing fear of these changes (Frese, 2001). Similarly, managing errors reduces fear because again, personal initiative is different and self-starting and, therefore, errors can easily occur when showing personal initiative. Finally, personal initiative may lead to more stress, as changes often cause fear. People who use active coping strategies know that they are able to deal with potential negative outcomes of personal initiative (Frese & Fay, 2001).

2.4 Developing the Training Content along the Facet Model

The three personal initiative components can be related to each aspect of the action sequence (Frese & Fay, 2001), producing Table 2.1. We used this table to develop the training content, the cases, and the exercises of the training (cf. Glaub et al., 2014).

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Table 2.1

Personal Initiative Facets in Action Sequence (Frese & Fay, 2001) with Action Principles and Training Examples (based on Glaub et al., 2014)

Goal setting					
Personal initiative element	Learning goals	Action principle examples	Example in work context	Example in unemployment context	
<i>Self-starting</i>	<ul style="list-style-type: none"> • Set active goals • Redefine goals if necessary • Set different goals 	<ul style="list-style-type: none"> • Be different from those around you! • Add something interesting and new to the things that you do! 	<ul style="list-style-type: none"> • Set a self-developed goal for an innovation within the company • Go beyond of what is required by the company; think of new ways to approach your work that makes it more interesting and that helps the company's achievement of its vision 	<ul style="list-style-type: none"> • Set a new high and specific active goal to approach employers, e.g. write 30 applications per week or write an application only after having researched the company for 1 hour on the internet 	
<i>Future-oriented</i>	<ul style="list-style-type: none"> • Identify future problems and opportunities • Translate them into goals 	<ul style="list-style-type: none"> • Think of what you/your company needs in 2 years! Develop specific goals for it! 	<ul style="list-style-type: none"> • Base the innovation on future trends and potential future problems in the company's sector or in society in general, e.g. based on the demographic changes in society, develop a partial retirement model for your company that allows people to work beyond retirement age 	<ul style="list-style-type: none"> • Think about possible future developments in the intended field of work and make sure that you meet them, e.g. learn how to use the latest technology in your field of work 	
<i>Persistent</i>	<ul style="list-style-type: none"> • Protect goals when barriers occur 	<ul style="list-style-type: none"> • When barriers occur, think of three ways how to deal with them – Don't get stuck on only one idea 	<ul style="list-style-type: none"> • Don't give up the innovation immediately if others (i.e. your supervisor) consider the idea as inconvertible, try to convince them of your idea, prepare for example a convincing presentation 	<ul style="list-style-type: none"> • Maintain job search despite several letters of refusal and subsequent frustration and demotivation, let these barriers be the reason for even more initiative to get a job 	

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Information collection and prognosis				
Personal initiative element	Learning goals	Action principle examples	Example in work context	Example in unemployment context
<i>Self-starting</i>	<ul style="list-style-type: none"> Search actively for information 	<ul style="list-style-type: none"> Approach employers actively! Look for at least two sources of information that are rare and hard to find! 	<ul style="list-style-type: none"> Look for information on similar innovations and necessary procedures and technologies, compare for example your invented partial retirement model with other models already implemented in other companies, industries or countries 	<ul style="list-style-type: none"> Approach the job market actively, do not wait until other people suggest job vacancies, e.g. ask employers about divisions that could need further support or let employees of desired companies tell you what the companies' demands are
<i>Future-oriented</i>	<ul style="list-style-type: none"> Use information to prepare for possible threats and opportunities 	<ul style="list-style-type: none"> Ask yourself: What could be possible threats and opportunities for me/ my company in 3 months/ 2 years? 	<ul style="list-style-type: none"> Inform yourself about future trends that the innovation could cover and identify possible adaptabilities of the innovation in case of problems, e.g. think about campaigns that increase the model's acceptance among employees 	<ul style="list-style-type: none"> Inform yourself about which company will hire personal in the future and which company might have to discharge employees, use this information for strategic job search
<i>Persistent</i>	<ul style="list-style-type: none"> Maintain information search even if finding information is difficult 	<ul style="list-style-type: none"> Identify at least one alternative to every information source that you use! 	<ul style="list-style-type: none"> If there is no information on the innovation available, try to look for other ways to get them, e.g. call a team leader of one of the companies that have already introduced a work model similar to what you want to introduce in your company 	<ul style="list-style-type: none"> Maintain information search on the job market despite difficulties like the lack of information on vacancies matching your job profile, look for different information sources such as friends or employees of desired companies

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Plan and execution				
Personal initiative element	Learning goals	Action principle examples	Example in work context	Example in unemployment context
<i>Self-starting</i>	<ul style="list-style-type: none"> • Make plans that demand one's own action • Be flexible in planning 	<ul style="list-style-type: none"> • Define the actions that you yourself are going to undertake! • Make a weekly plan on when you are going to undertake which action! 	<ul style="list-style-type: none"> • Make a detailed plan on how to introduce the innovation, think about personal actions, e.g. when and how do you want to present, design and implement the partial retirement model? 	<ul style="list-style-type: none"> • Make a detailed plan on how to actively approach possible employers, e.g. which employers will you approach on which day and how many applications will you submit in which timeframe?
<i>Future-oriented</i>	<ul style="list-style-type: none"> • Develop back-up plans • Develop plans how to seize potential opportunities 	<ul style="list-style-type: none"> • Ask yourself: What are potential barriers on my way to the goal? • Make at least one plan B per barrier on how to overcome it or how to turn it into an opportunity! 	<ul style="list-style-type: none"> • Develop a plan B in case the first plan on how to introduce the innovation does not work out, for example when and how will you implement the campaign increasing employees' acceptance of the model in case they do not support the idea? 	<ul style="list-style-type: none"> • Develop a plan B on how to find a suitable job in case the intended strategy is not successful, e.g. think about possibilities of self-employment or working abroad in case none of the national companies is interested in your application
<i>Persistent</i>	<ul style="list-style-type: none"> • Go back to plan as quickly as possible in case of difficulties 	<ul style="list-style-type: none"> • Don't let negative emotions like frustration stop you from following your plan! 	<ul style="list-style-type: none"> • Go back to the initial plan on how to introduce the innovation after difficulties have been overcome, e.g. continue following your implementation plan in case the campaign has increased acceptance 	<ul style="list-style-type: none"> • Go back to the initial plan on how to actively approach possible employers after having switched to job search on the international job market

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Monitoring and feedback				
Personal initiative element	Learning goals	Action principle examples	Example in work context	Example in unemployment context
<i>Self-starting</i>	<ul style="list-style-type: none"> • Search for feedback without waiting for others to provide it 	<ul style="list-style-type: none"> • Approach people in your environment and let them give you their positive and negative feedback on your goal-directed behavior! 	<ul style="list-style-type: none"> • Ask colleagues and supervisors for their feedback, implement feedback sessions on a regular basis, also approach people outside of the company in order to get their unaffected feedback 	<ul style="list-style-type: none"> • Ask friends and relatives, as well as employees and employers in the desired field of work for their feedback on different aspects of your job search such as the quality of your applications or your persuasiveness in job interviews
<i>Future-oriented</i>	<ul style="list-style-type: none"> • Use feedback to detect future problems and opportunities 	<ul style="list-style-type: none"> • Ask yourself: Does my behavior lead to future work success? What exactly should I change? 	<ul style="list-style-type: none"> • Use feedback from colleagues and supervisors to make the innovation sustainable, ask them for example what they consider as possible future threats and opportunities for an implemented partial retirement model 	<ul style="list-style-type: none"> • Use feedback from friends, relatives and employees for searching a stable job, let them tell you what they think are possible ways to find a job in the future or if they think your application choices will lead you to a stable occupation
<i>Persistent</i>	<ul style="list-style-type: none"> • Continue with feedback search in case of obstacles 	<ul style="list-style-type: none"> • Look for at least one alternative to every feedback source that you use! 	<ul style="list-style-type: none"> • Keep asking for feedback even if people refuse due to a lack of time or motivation, try to find a more suitable date and time for a talk in this case • Think about other feedback possibilities such as specialized journals or experts in the field of demographic change 	<ul style="list-style-type: none"> • Keep asking for feedback even if people refuse due to a lack of time or motivation, try to convince them to give you feedback or to give you the contacts of other helpful people that could do so • Think about other feedback sources such as job interview trainings or company websites informing about company values

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2.4.1 Goal setting

According to goal-setting theory (Locke & Latham, 2002), goals that are difficult and specific generate the highest performance. Non-concrete and abstract goals leave room for interpretation and thus allow being satisfied with a low level of effort (Locke, Chah, Harrison, & Lustgarten, 1989). Personal initiative training should therefore teach participants to set themselves (and others) challenging and specific goals.

However, our approach suggests on top of goal setting theory two important aspects: First, we teach training participants to come up with self-developed goals because goals need to be self-starting and goals given by others are not self-starting. Sometimes the larger higher order goal may be given but self-starting goals are used to embellish and reinterpret them; this is for instance the case for employees who increase quality without being told, for unemployed people who use creative job search strategies or for entrepreneurs who are creative in marketing – the overall goals (company goals, goal to find a job, goal to increase sales) may be very similar; however there is still room for active self-starting goals. During personal initiative training for unemployed, for example, participants have to learn that they should not perceive the overall goal to get a new job as externally dictated, but that they should turn this goal into several active internal goals. They are for example asked to formulate challenging self-starting goals that are as specific as possible and that allow them to become active right away (i.e. “I want to write 15 job applications to potential employers a day and call the companies if they do not answer within the next two weeks”). Second, as a self-starting goal implies a certain element of newness and creativity, the training teaches the participants to develop goals that are different from those typically pursued by others in a similar situation. These different goals drive creative new ideas to achieve them.

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Future oriented goal setting implies that the person needs to think about future problems and opportunities; these are then translated into goals. Often thinking about goals in a future oriented way may help to differentiate one's goals from others in the same situation.

During the training, participants also have to learn how to protect existing goals when the situation threatens its realization or leads to frustration. Thus to some extent, the persistence and overcoming barriers notion of personal initiative implies a certain degree of self-regulation and self-management (Frayne & Latham, 1987). We can only be persistent if we protect goals from distraction or from strong frustration leading to premature giving up a goal.

2.4.2 Information collection and prognosis

Personal initiative training teaches participants how to search for information actively, instead of waiting until information is provided. This information can also be used to prepare for possible threats and opportunities and to inform oneself of new fields of action that could be of future relevance. Information search is sometimes difficult and exhausting. Consequently, personal initiative training prepares for these situations and teaches the individual how to maintain the search despite difficulties.

2.4.3 Planning.

Planning is the mental simulation of actions (Zacher & Frese, in press). The aim of a plan is to implement the goal. Thus, one of the most important functions of planning is to keep the goal intact even when things do not turn out as the plan has prescribed. Personal initiative training teaches participants planning flexibility. There needs to be some stability in planning, but plans should not be confused with recipes that are used without thought once they have been developed (Gielnik, Frese, & Stark, 2015; Mumford, Mecca, & Watts, 2015). Rather they should

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be conceived to be flexible, with improvisational interruptions and with flexible approaches. In the context of entrepreneurship, for example, people often do not have the necessary resources and need to invent them on the spot (Baker, Miner, & Eesley, 2003). Thus, planning needs to be open to changing conditions and flexible approaches.

A self-starting plan does not just have to be active, but people need to keep plan execution in their own hands – delegation of plan execution to others often leads to a kind of ballistic plan (Dörner & Schaub, 1994). Similarly, to throwing a ball into a game and then turning your back to it, a ballistic approach implies that one does not continue the supervision of a plan execution well enough – either one relies too much on one's own routines or on other people. Personal initiative training participants learn how to make active plans relying on their own actions or own supervision of their execution.

In order to develop the participants' competence to plan in the long term, personal initiative training teaches the development of back-up plans that prepare for potential problems as well as plans to seize upcoming opportunities in order to be prepared when they arise. As difficulties in reaching the set goal will most likely occur, training participants have to learn how to develop a plan B in case of barriers and how to deal with problems flexibly. Personal initiative training prepares participants to return back to plans as quickly as possible if unpredicted events interrupt the execution of existing plans. Another training approach focusing on overcoming barriers in the workplace is the web-based training for the development of psychological capital by Luthans, Avey, and Patera (2008). The training aims at strengthening the participants' resilience by showing short clips of resilient role models, providing guidance on how to apply resilient behavior in the workplace and offering the possibility to transfer the learnings to own work situations.

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There are two potential problems of planning. One is the prognosis of the time needed to execute a plan – most often the prediction of execution is wrong (Buehler & Griffin, 2015). Outsiders are often much better in predicting the time needed to complete a plan. Thus, people should learn to look at a plan with the coolness of an outsider rather than with the hot ideation of a person who is just doing this task (Buehler & Griffin, 2015). Therefore, it is so important to think of potential problems that could appear and to have a clear understanding of how far one is still removed from accomplishing a task. Moreover, the knowledge of past mistakes that one has made in executing past plans is particularly useful (Buehler & Griffin, 2015). This is in keeping with our emphasis in this training to learn from errors and to record errors.

There is another problem that planning can bring along. Some people use a high degree of intensive planning as a shield to allow them to procrastinate (van Eerde, 2015). Using planning for this purpose may be the result of anxiety. Actions are finite interventions into reality; thus, they cannot be taken back. Personal initiative training teaches people the priority of action - thus, in case of doubt we need to act quickly, with an adjustable and flexible approach (plan), rather than trying to find that one perfect plan that encompasses all eventualities.

In the end, everything we think is and should be in the service of the action and not the other way around - that is the most important premise of action regulation theory. However, the doing becomes better when people plan because planning helps to improve actions before they are performed.

2.4.4 Feedback

Feedback needs to be actively sought and developed. Personal initiative training teaches how to actively look for feedback without waiting for other people or situations to provide it. Participants begin to proactively use feedback in order to detect possible future problems and

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opportunities. They also learn to continue with feedback search, even when obstacles arise. Personal initiative training encourages participants to constantly enhance their search of not just positive, but also, importantly, negative feedback in order to promote personal and professional development. Proactive feedback seeking contributes to increased performance in many ways. It gives an insight into other people's evaluation of own work behavior, into the relative importance of different goals, into the way of operating in certain environments and into possibilities to improve performance (Ashford & Cummings, 1983; Ashford & Tsui, 1991; London, Larsen, & Thisted, 1999; Morrison, 1993; Porath & Bateman, 2006). Thus, getting feedback increases self-awareness, reduces people's uncertainties concerning their ability to change behavior and helps to decrease stress levels (DeRue & Wellman, 2009). Negative feedback is of particular importance, as it allows for correcting behavior for the sake of increasing performance (Frese & Keith, 2015). For example, managers who actively search for negative feedback show better performance (Ashford & Tsui, 1991). One conception of the personal initiative training approach is influenced by the error management training perspective and the emphasis on learning from errors (Keith & Frese, 2008). This is reflected in our focus on the active development of feedback signals, on the detection of errors (negative feedback) and on writing errors down. At the same time the training teaches participants how not to be intimidated by errors and how to use them as learning instruments for future behavior (dealing with problems actively in the sense of active self-regulation).

2.5 Making the Training Work: From Action Principles to Personal Initiative

In our introduction we stated that teaching personal initiative is a contradiction in and of itself. Fortunately, there is nevertheless a way to do it. It is possible to start with the development

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of an active mindset through action principles which participants then interiorize and refine with the help of action training within and outside of the training situation. Personal initiative training can put into motion a positive cycle (Sonnentag & Frese, 2012).

Our training combines a top down approach (learning general principles that compose an operative mental model) with a bottom up approach (learning through action and flexibilization of routines by making and learning from errors). The training material contains action principles from scientific results. We work from the assumptions of evidence based management (Rousseau, 2012). Evidence based management means that managers use a combination of good scientific evidence, evidence from their own context of work and own work experience that they have thoughtfully evaluated (Briner, Denyer, & Rousseau, 2009; Glaub et al., 2014). Thus, a science based approach helps us to develop action principles (Locke, 2004). At the same time, we are praxeology oriented – we believe that all trained behavior must be applicable to the situation of the trainees. Table 2.2 describes the different facets of action training.

2.5.1 Action Principles for Rudimentary Operative Mental Models

The personal initiative activation process starts with the creation of operative mental models of personal initiative. Operative mental models are at the core of actions (Frese & Zapf, 1994; Hacker, 1998). They are models that people use to interact with their tasks and environment (Norman, 1983). The term “operative” underlines the necessity that mental model characteristics must be oriented towards the practice of the participants. An operative mental model of personal initiative in the context of job search, for instance, includes personal initiative behaviors in the job seeking process like self-starting interactions with potential employers and the proactive search for job opportunities that societal developments could provide in the near future. Stored behaviors change and develop in interaction with the job market. To create

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operative mental models of personal initiative in the context of work, trainers should explain each facet of personal initiative and teach participants how to execute goal setting, information search, planning and feedback seeking in a self-starting, future oriented and persistent way.

Table 2.2

Summary of the Facets of Personal Initiative Training

Facet	Contents
Action principles for rudimentary operative mental models	<ul style="list-style-type: none">• Development of action principles from the best scientific evidence (if possible: meta-analyses)• Provision of good examples from the participants' environment• Creation of a rudimentary understanding of personal initiative• Use of cases to illustrate the importance of action principles• First transfer to own business
Verbalization and interiorization of operative mental models	<ul style="list-style-type: none">• Verbalization of personal initiative action principles• Development of personal initiative action schemes
Action training for more sophisticated operative mental models	<ul style="list-style-type: none">• First actions within the training:<ul style="list-style-type: none">○ Transfer of learnings○ Trainer and participant feedback○ Error learning through metacognition○ Coping with frustration• Routinization of personal initiative
Training transfer	<ul style="list-style-type: none">• Action training in the work environment• Mainly self-correction and self-feedback• Transfer of personal initiative to real life tasks• Flexibilization of personal initiative

Action principles (Glaub et al., 2014; Locke, 2004; Rousseau & McCarthy, 2007) serve as good rules. They link personal initiative theory to participants' actions. In many training

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situations, knowledge conveyed is not applicable – often because the knowledge may be too complex, too abstract, or the connection between thought and action may be too weak. Consequently, people cannot transform knowledge into operative mental models which then in turn lead to personal initiative. Action principles allow transferring the abstract action background into “rules of thumb” that are teachable, usable, and adaptable to the action context (Glaub et al., 2014). Action principles should be derived from the current best evidence in the respective context (Briner, Denyer, & Rousseau, 2009; Rousseau & McCarthy, 2007). In addition, they should be easily understandable. Examples of action principles from personal initiative training for entrepreneurs are “Look actively for information. Don’t wait until people tell you” for the self-starting component in the information collection and prognosis phase, “Set some long-term goals with a timeframe of half a year to one year” for the proactivity component in the goal setting phase or “Anticipate possible problems and develop back-up plans” for the persistence component in the plan and execution phase.

The functionality of action principles of personal initiative has to become evident, that is training participants should understand that following action principles leads to increased success in their respective work situation. Cases from the participants’ own work environment that describe why personal initiative action principles are useful in relevant action areas and why action principles help to acquire personal initiative can help here. They usually depict either positive or negative role models of personal initiative in various work settings. Research suggests that using models in trainings contributes to better training outcomes in terms of self-efficacy and performance (Gist, 1989). We also know that giving concrete examples to illustrate abstract knowledge increases learning success (Anderson, Reder, & Simon, 1996). In the context of entrepreneurship, for instance, cases can portray entrepreneurs following the action principle

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“Look actively for information. Don’t wait until people tell you”, as well as the positive consequences resulting from this behavior like for instance the gain of new clients due to the competitive advantage resulting from the gathered information. Case based reasoning is then important for the development of planning (Mumford, Giorgini, & Steele, 2015; Osburn, Hatcher, & Zongrone, 2015).

2.5.2 Verbalization and Interiorization of Operative Mental Models

Thus, participants of personal initiative training develop first rudimentary operative mental models. As participants are supposed to show self-starting, proactive and persistent behavior on their own, independently from outside activation, other steps have to follow. They should allow for participants’ autonomous correction and completion of operative mental models and stand-alone development of personal initiative routines.

Interiorization (Galperin, 1966) means that participants of personal initiative training develop their own internal action schemes which guide their actions. Verbalization, defined as the inner or outer verbal fixation of former non-verbal work tasks (Tomaszewski, 1981), constitutes the link between external personal initiative stimulation through training and internal action schemes promoting personal initiative (Hacker, 1998, Luria, 1970). Through verbalization, individuals process external information, in this case mainly personal initiative action principles and their use and importance in the context of work, and translate them into internal action goals. These goals are then the basis of interiorization processes. This may lead to actions by the participants that have not been supported by the trainer. For example, we often observed training participants who developed networks among themselves.

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2.5.3 Action Training for More Sophisticated Operative Mental Models

Learning by action is necessary for the development of more sophisticated operative mental models and respective action schemes (Frese, 2009; Frese & Zapf, 1994). There are three arguments why learning through action is required (Frese, Beigel, & Schoenborn, 2003). First, human beings are by their very nature active as they are dependent on actions to survive. Second, learning through action creates a deeper relationship between thoughts and actions and therefore actions are necessary to get from declarative knowledge (“knowing that”) to more action-oriented procedural knowledge (“knowing how”). Third, actions help to discover the situational conditions under which action knowledge is applicable or non-applicable, making acquired knowledge and skills more flexible.

Case studies already provide support for creating operative mental models of personal initiative. They set the stage for a first engagement with personal initiative. However, in order to enable transfer, participants should actively apply their learnings from case studies and the resulting personal initiative action schemes to their own work situation. In the context of job search, for example, it is not enough to only analyze cases of self-starting and reactive job seekers. Participants have to subsequently think of their own reactive routines and turn them into self-starting job searching behavior. The repeated engagement with and active application of different personal initiative facets during training leads to first routinization of personal initiative actions. As a result, new active behaviors replace old reactive routines.

As people derive their motivation to change from the comparison of how they are and how they want to be (Carver & Scheier, 1998), feedback on participant behavior plays a crucial role in the action training phases of personal initiative training. Feedback mechanisms are the most important source of behavior correction (Frese & Zapf, 1994; Miller et al., 1960). Positive

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and negative feedback have different functions which are both vital for the behavioral change through personal initiative training. The main function of positive feedback is to encourage individuals to proceed with their behavior and to develop self-confidence. Negative feedback, in contrast, points to behavior patterns that are incompatible with the aims of their actions and leads to self-reflection and metacognition, meaning the individual's ability of developing plans and evaluating their goal approach (Brown, Bransford, Ferrara, & Campione, 1983; Ford, Smith, Weissbein, Gully, & Salas, 1998; Gully & Chen, 2010).

Errors are a particularly valuable form of negative feedback in action training. They constitute a very direct and informative knowledge base making the participants aware of dysfunctional behavior (Frese, 2009; Keith & Frese, 2008) and contributing to the correction and completion of operative mental models. Another advantage of errors is their capacity to prevent premature routinization of personal initiative. An important precondition for a positive impact of errors on behavior is that training conditions encourage participants' to make errors and that trainers communicate the value of errors for improvement (Frese, Beimeel, & Schoenborn, 2003; Heimbeck, Frese, Sonnentag, & Keith, 2003). In the context of personal initiative training for call center agents, for example, role plays can offer a platform for making errors. A role play can for instance help a participant having a wrong mental model of persistent customer acquisition who thinks that being persistent means to continue persuading a customer to buy a product with the same arguments again and again. During the role play he experiences that this behavior could be detrimental because clients become annoyed. Before his mental model of persistence in customer acquisition ends in routinization, he can now complete it with different strategies how to deal with customer refusal.

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Feedback mechanisms should be adapted in the course of action training. During the first exercises, extensive and detailed feedback on every exercise and presentation helps to refine operative mental models of personal initiative. In later phases of the training, when mental models are already more sophisticated, feedback can get more general (cf. Frese, Beigel, & Schoenborn, 2003). While in the beginning, feedback should mainly come from trainers, they should more and more fade into the background and leave the task to provide feedback to the participants themselves. By this means, participants become able to self-regulate existing behaviors and action schemes and get in control of their personal initiative.

2.5.4 Training Transfer

Acquired skills and knowledge do not exert long-time influence on behavior if they are not connected to the participants' respective job situation (Aguinis & Kraiger, 2009). During the training, participants learn how to transfer action principles of personal initiative to their own job environment with the help of exercises in which they analyze and change their current work situation. Although this practice already provides a first link between training content and the work situation, participants must repeatedly apply their personal initiative to concrete work situations in their daily professional life in to fully routinize personal initiative. This setting provides natural feedback from available feedback sources. Furthermore, real life action training allows for the training of flexible usage of action principles. Therefore, at the end of personal initiative training, every training participant should develop an own personal project (Little, 1983) based on a job-related goal, and operationalize it in weekly plans how to achieve the project goal. To assure constant feedback during the realization of their personal projects, participants should discuss their progress with a peer taken from the other training participants.

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Personal projects provide the opportunity of making further errors, this time in the real life context. They further correct wrong operative mental models of the intended behavior (Frese & Zapf, 1994). An entrepreneur who develops a personal project with the goal to increase sales by distributing business cards, for example, benefits from this project in two ways. First, the project gives him the chance to put his knowledge on the necessity to be different from his competitors into practice. He can now actively pursue what he has theoretically grasped. Second, while pursuing his plan, he might find that the distribution of business cards does not really serve as a unique selling proposition raising sales level in his sector and correct his mental model of successful differentiation from others.

2.6 Personal Initiative Trainings in Different Contexts of Work

In the following, we present the effects of personal initiative on work performance in various settings. We then illustrate different training studies aiming at the increase of work performance through personal initiative. Some of the training studies explicitly concentrate on training of personal initiative; others address the orientations above which lead to personal initiative or related constructs.

Table 2.3 depicts the design and main results of training interventions in the context of entrepreneurship, employment and unemployment. Some of these trainings have the status of pilot trainings. However, whenever a pilot training appears to achieve its purpose, it makes sense to develop a more sophisticated experimental design and to give this training a trial.

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Table 2.3

Overview of Different Personal Initiative Trainings and Related Training Approaches

Trainings for entrepreneurs						
Author(s)	N training	N control	Aimed change in	Theoretical background	Training design	Training outcomes
Frese, Hass, & Friedrich (2016)	36	97	Personal Initiative	<ul style="list-style-type: none"> Personal Initiative Theory Action Regulation Theory 	<ul style="list-style-type: none"> Pretest-posttest Control group No randomization 	<ul style="list-style-type: none"> Increased personal initiative Increased number of employees
Glaub et al. (2014)	56	53	Personal Initiative	<ul style="list-style-type: none"> Personal Initiative Theory Action Regulation Theory 	<ul style="list-style-type: none"> Pretest-posttest Control group Randomization 	<ul style="list-style-type: none"> Increased personal initiative Increased sales levels Increased number of employees Lower failure rate
Solomon, Frese, Friedrich, & Glaub (2013)	27	30	Personal Initiative	<ul style="list-style-type: none"> Personal Initiative Theory Action Regulation Theory 	<ul style="list-style-type: none"> Pretest-posttest Control group No randomization 	<ul style="list-style-type: none"> Increased personal initiative Increased innovation Increased proactive goal-setting and planning Increased sales levels No effect on time management
Trainings for employees						
Author(s)	N training	N control	Aimed change in	Theoretical background	Training design	Training outcomes
Coch (2002)	8	7	Stress Management	<ul style="list-style-type: none"> Action Regulation Theory Social Learning Theory 	<ul style="list-style-type: none"> Pretest-posttest Control group No randomization 	<ul style="list-style-type: none"> Increased self-efficacy Decreased emotional and cognitive strain Decreased job-induced tensions Decreased helplessness Increased work change No effect on locus of control No effect on being strong-willed No effect on change activity No effect on time pressure No effect on psychosomatic afflictions, and depression No effect on job satisfaction, subjective performance, efficiency, and int. to leave

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Frayne & Latham (1987)	20	20	Self-Regulation	<ul style="list-style-type: none"> • Social Learning Theory 	<ul style="list-style-type: none"> • Pretest-posttest • Control group • Randomization 	<ul style="list-style-type: none"> • Increased perceived self-efficacy • Increased job attendance
Raabe et al. (2007)	205	0	Self-Regulation	<ul style="list-style-type: none"> • Personal Initiative Theory • Action Regulation Theory 	<ul style="list-style-type: none"> • Pretest-posttest • No control group • No randomization 	<ul style="list-style-type: none"> • Increased self-knowledge • Better plan quality • Higher goal commitment • More active career self-management • Increased career satisfaction
Schildbach (2002), Pulwitt (2002), & Garman (2002) (unpublished)	12	10	Personal Initiative	<ul style="list-style-type: none"> • Personal Initiative Theory, emphasis on orientations • Action Regulation Theory 	<ul style="list-style-type: none"> • Pretest-posttest • Control group • No randomization 	<ul style="list-style-type: none"> • Increased personal initiative • Increased self-efficacy • Increased process-oriented error competence • Increased motivational control • Decreased emotional and cognitive strain • Decreased passivity
Strauss & Parker (2014)	≈20/20	≈72	Proactivity	<ul style="list-style-type: none"> • Cybernetic Control Perspective 	<ul style="list-style-type: none"> • Pretest-posttest • Control group • Randomization 	<ul style="list-style-type: none"> • Increased individual task proactivity in problem-focused intervention for individuals experiencing high role overload • Increased organization member proactivity and involvement in shaping the future of the organization in vision-focused intervention for future-oriented individuals

Trainings for job seekers

Author(s)	N training	N control	Aimed change in	Theoretical background	Training design	Training outcomes
Eden and Aviram (1993)	39	27	Self-Efficacy	<ul style="list-style-type: none"> • Self-Efficacy Theory 	<ul style="list-style-type: none"> • Pretest-posttest • Control group • Randomization 	<ul style="list-style-type: none"> • Increased general self-efficacy • Increased job-search activity for people low in initial general self-efficacy • Higher reemployment rate for people low in initial general self-efficacy

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Frese et al. (2002)	8	0	Personal Initiative	<ul style="list-style-type: none"> • Personal Initiative Theory, emphasis on orientations • Action Regulation Theory 	<ul style="list-style-type: none"> • Pretest-posttest • No control group • No randomization 	<ul style="list-style-type: none"> • Increased personal initiative • Increased competence expectation • Decreased emotional and cognitive strain • Less psychosomatic symptoms and depressiveness • Increased self-confidence
Noordzij, van Hoof, van Mierlo, van Dam, & Born (2013)	161	84	Self-Regulation	<ul style="list-style-type: none"> • Goal Orientation Theory 	<ul style="list-style-type: none"> • Pretest-posttest • Control group • No randomization 	<ul style="list-style-type: none"> • Increased job-search learning goal orientation • Decreased job-search performance avoidance • Better dealing with negative experiences • Increased awareness of different job seeking strategies • More planning of job-search activities • Increased reemployment rate • No increase in self-efficacy
Yanar, Budworth, and Latham (2009)	27	28	Self-Efficacy	<ul style="list-style-type: none"> • Social Cognitive Theory 	<ul style="list-style-type: none"> • Pretest-posttest • Control group • Randomization 	<ul style="list-style-type: none"> • Increased self-efficacy • Increased job search behavior • Higher rate of secured employment compared to control group

Training for other target groups

Author(s)	N training	N control	Aimed change in	Theoretical background	Training design	Training outcomes
Searle (2008)	44 in 2 groups	51	Personal Initiative	<ul style="list-style-type: none"> • Personal Initiative Theory • Action Regulation Theory 	<ul style="list-style-type: none"> • Pretest-posttest • Control group • Randomization 	<ul style="list-style-type: none"> • No increase in self-reported personal initiative • Only short-term increase in independent ratings of personal initiative • Less strain compared to control group, but no difference between PI treatment and a stressor reduction program

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2.6.1 Training for Entrepreneurs

In the domain of entrepreneurship, personal initiative is crucial for business success for three reasons. First, according to Shepherd (2014), proactivity facilitates facing opportunities and difficulties in the entrepreneur's environment. Second, due to the growing speed in which businesses have to operate, the striving for being the first instead of a follower of competitors constitutes a major competitive advantage (Shepherd, 2014). Third, as entrepreneurs are oftentimes solely responsible for their business (Frese, 2009) because there are no organizational institutions and processes that structure their actions, they need to show proactive behavior. Research substantiates this thought. Personal initiative enhances business success for small and medium size business owners (Frese, 2000; Glaub et al., 2014; Krauss, Frese, Friedrich, & Unger, 2005). There is also evidence for the impact of personal initiative on sales (Crant, 1995) and entrepreneurial performance (Glaub et al., 2014; Solomon, Frese, Friedrich, & Glaub, 2013).

One example of personal initiative training in the entrepreneurial context is the randomized controlled field intervention by Glaub et al. (2014) which used the above-mentioned action training approach (see Table 2.3). It encouraged participants' personal initiative in every part of the entrepreneurial action sequence. The training promoted the interiorization of entrepreneurial personal initiative action principles (Glaub et al., 2014). Participants worked on entrepreneurial cases with high or low personal initiative, applied their new knowledge to their own context and developed personal projects which they implemented with the help of another participant as implementation partner giving feedback. The training was successful in increasing personal initiative of training participants and led to higher business success in terms of sales, number of employees and low failure rates.

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Other personal initiative training approaches similar to the one described above are the training by Frese, Hass, and Friedrich (2016) for small scale business owners in Germany as well as the training by Solomon et al. (2013) for owner-managers of small businesses in South Africa (see Table 2.3). The two training interventions, both of them quasi-experiments with a pre-test post-test design and a control group enhanced participants' personal initiative. For German entrepreneurs, this increase then positively affected the number of employees (Frese et al., 2016). In the South African context, personal initiative subsequent to the training caused a rise in business sales, as well as better business performance in terms of proactive goal-setting, planning, and innovation (Solomon et al, 2013). An effect on time management was not detectable.

2.6.2 Training for Employees

In the context of white collar occupation, personal initiative leads to active self-management of one's own career, high commitment to the organization and the introduction of innovations. Research provides evidence for the positive impact of proactivity in general and personal initiative on employee performance. On the individual level, proactivity has positive influence on career management, which is in turn linked to the employee's career satisfaction (Raabe, Frese, & Behr, 2007). Employees behaving in a proactive way receive higher salaries, get promoted more frequently and have a higher probability of earning rewards (Grant, Nurmohamed, Ashford, & Dekas, 2011; Seibert, Crant, & Kraimer, 1999; Van Scotter, Motowidlo, & Cross, 2000). On the organizational level, due to the constantly changing work environment, organizations are more than ever dependent on their employees' personal initiative (Axtell & Parker, 2003). There are positive effects of employees' proactivity on affective commitment towards their organization (Thomas, Whitman, & Viswesvaran, 2010). Also,

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personal initiative is crucial for initiating and going ahead with innovations (Tornau & Frese, 2013).

One intervention example is the career management training to stimulate employees' active career building by Raabe et al. (2007). It was guided by action regulation theory and successfully focused on the increase of self-knowledge, goal commitment and the quality of career planning as antecedents of active self-management behaviors (see Table 2.3). The one group pretest-posttest design intervention addressed rank and file employees of a large international company based in Germany and aimed at fostering active behavior in all phases of the action sequence for managing one's own career. Throughout the training trainers communicated that employees should actively care for their own career management without waiting for supervisors and colleagues from the human resource department to plan their careers for them. Participants had to develop career goals and plans for their next five years of employment. In addition, they were supposed to look for information that could help them to achieve their goals and mentally simulate actions that lead them to goal attainment, including dealing with potential problems during the pursuit of their plans. 360-degree feedback on participants' strengths and weaknesses, as well as feedback on their actions and result presentations provided the possibility to correct career building behavior. The successful increase in active career building initiated a more active career self-management which then in turn led to more career satisfaction.

There are two other personal initiative trainings for employees which are based on action regulation theory (see Table 2.3). One is the personal initiative pilot training for employees of an international company in the financial sector by Schildbach (2002), Pulwitt (2002) and Garman (2002). The other training is a stress management pilot training for civil servant employees by

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Coch (2002). Both are non-randomized pretest-posttest control group interventions. The training in the financial sector fostered personal initiative, as well as orientations leading to personal initiative (self-efficacy, error competence, perceived control) which subsequently decreased employees' negative feelings and passivity. The stress management intervention showed mixed findings with regard to personal initiative orientations and stress management. Some postulated changes could not be found (cf. Table 2.3). Nevertheless, the training produced positive outcomes. Participants showed an increase in self-efficacy and work change, as well as a decrease in emotional and cognitive strain, job induced tensions and the feeling of helplessness.

Another randomized controlled training intervention built on social learning theory (Frayne and Latham, 1987). It was aimed at increasing job attendance of state government employees. The training successfully increased self-efficacy, as well as job attendance after the training.

Strauss and Parker (2014) developed two randomized controlled interventions to train proactive behavior in policemen. One was a problem focused intervention comparing the current situation and a desired situation in the present. The other one was a vision-focused intervention comparing the current situation and a desired situation in the future. The trainings were grounded on cybernetic control perspectives. Both interventions were successful in increasing proactive behavior. Nevertheless, they did not work equally well for all policemen. The problem focused intervention increased proactive behavior for people with high role overload, while the vision-focused intervention worked best for those high in future orientation.

2.6.3 Training for Job Seekers

Proactive behavior is also beneficial for (re)integration into the job market. In the context of job search, action-state orientation (composed of disengagement, persistence and initiative and

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therefore related to the personal initiative concept) leads to more job search effort (Wanberg, Zhu, & Van Hooft, 2010). Job search effort, in turn, is related to faster reemployment (Kanfer, Wanberg, & Kantrowitz, 2001; Wanberg, et al., 2010).

Two examples of increasing active job search behavior are the pretest-posttest control group interventions by Eden and Aviram (1993) and Yanar, Budworth, and Latham (2009, see Table 2.3). Both of them successfully promoted self-efficacy to stimulate job-searching behavior. The self-efficacy training for job seekers with postsecondary training by Eden and Aviram (1993) used video cases and subsequent role plays to rehearse the intended job-search behaviors. Participants got feedback from other participants and trainers underlined that successful behavior in the workshop constitutes a prerequisite for future successful behavior in job search. As a result, especially participants with low levels of self-efficacy before the training showed a higher job-search activity and a higher reemployment rate.

Yanar, Budworth, and Latham (2009) used the method of verbal self-guidance to boost women's self-efficacy regarding successful job search. The training was based on cognitive theory (Bandura, 1977) which argues that people are able to proactively shape their environments (Bandura, 2001). Participants were asked to turn negative self-statements that produce inner barriers for job search into positive statements guiding job-searching actions. The trainer modeled these actions. In addition, role plays were used to practice acting. Trainers encouraged the participants to continue using the positive statements they have developed in the training in their subsequent job search. After the training, trainees were more engaged in job search than control group members. They were also more likely to find secured employment.

Table 2.3 depicts other training approaches for training personal initiative or personal initiative orientations in the context of unemployment. Action regulation theory is the basis for

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the pretest-posttest intervention for German job seekers by Frese et al. (2002). The training worked with case studies and role plays to routinize personal initiative, as well as with exercises for the development of more self-confidence. A rise in personal initiative, competence expectation and self-confidence and a decrease in negative feelings and psychomatic symptoms were the results of the training. Noordzij, van Hooft, van Mierlo, van Dam and Born (2013) used goal orientation theory as a basis for their self-regulation training with a quasi-experimental pretest-posttest control group design. Training participants were unemployed job seekers who were registered in different branches of a reemployment-counseling agency in the Netherlands. The training taught them how to develop goals and adopt a learning goal orientation. As a result, participants increased learning goal orientation and showed less job-search performance avoidance. Participants became better in dealing with negative experiences, increased their awareness of different and more challenging job seeking strategies and intensified planning of job-search activities. Self-efficacy, in contrast, was not increased. The training promoted trainees' reemployment rate.

2.7 Evaluation of Personal Initiative Training

A successful training project should not only strive to maximize stakeholders' benefits, but also prove its usefulness (Aguinis & Kraiger, 2009). This implies two rules. First, the training design should allow for a meaningful evaluation. A randomized controlled field experiment (Reay, Berta, & Kohn, 2009; Shadish & Cook, 2009), which allows for direct comparison of training outcomes with a similar control group, is best here.

Second, if someone wants to evaluate personal initiative, he or she should concentrate on evaluating behavior. This sentence seems to be trivial and redundant, but it is important.

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Researchers should measure training effectiveness by evaluating performance before and after the training and the change in personal initiative behavior. Therefore, the distinction between proactive personality and proactive behavior (Frese & Fay, 2001; Parker & Collins, 2010; Tornau & Frese, 2013) is also relevant when it comes to evaluating personal initiative training. The increase in personal initiative should be measured with behavioral measures detecting changes in work-related behavior.

Searle (2008) measured training success regarding a change in personal initiative using a personal initiative self-report scale developed by Frese, Fay, Hilburger, Leng and Tag (1997). This scale asks about general beliefs regarding own personal initiative. A sample item is “Whenever something goes wrong, I search for a solution immediately”. This scale is a useful instrument of measuring general personal initiative in the sense of proactive personality. However, it is not useful to measure change in behavior. Thus, we agree with Searle that this measure of proactive personality is not easily changeable through training.

Frese et al. (1997) and Frese and Fay (2001) recommend using more behavior-oriented measures. Meta-analysis results reveal that interview-based personal initiative is more strongly related to objective success than self-evaluations or evaluations of others’ personal initiative (Tornau & Frese, 2013). Asking for concrete behavior in an interview setting is a useful method of analyzing the self-starting, proactive and persistent aspect of behavior. One possibility is the use of an interview asking for different facets of work related behavior (Fay & Frese, 2001; Frese et al., 1997; Glaub et al., 2014). In the context of entrepreneurship, Glaub et al. (2014) conducted interviews asking the entrepreneurs who participated in personal initiative training for their entrepreneurial behavior in the past months. More specifically, they examined how the entrepreneurs approached their self-set goals, how they dealt with problems that occurred in their

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businesses, if and how they tested product or service quality and if and how they introduced changes concerning several business aspects in their businesses. The interviewer notes were coded by two independent coders. Interviewers also provided barriers to a person and asked him or her for possible ways to overcome them (cf. Fay & Frese, 2001).

If possible, other measuring methods should accompany interview measures aiming at detecting personal initiative. Triangulation (Webb, Campbell, Schwartz, & Sechrest, 1966), meaning the use of different methods to measure the same construct, ensures high validity in the measuring process. In addition to that, using further methods for personal initiative assessment can help collecting additional data not affected by social desirability. In the case of personal initiative, other evaluation methods could be the observation of individuals' behavior or the evaluation of personal initiative by significant others like their spouses (Frese, Kring, Soose, & Zempel, 1996; Frese et al., 1997).

2.8 Limitations of Personal Initiative Training

There are two sides to every coin. Personal initiative training is a useful method for increasing personal initiative in various work contexts. Personal initiative itself is, in turn, related to better performance in the trained performance domain. Nevertheless, we want to point to potential downsides of personal initiative training that may appear and that we have observed during trainings and by talking to training participants. Studies have already shown that proactivity does not always contribute to higher performance or perceived performance in the workplace (Grant et al., 2011; Wihler, Blickle, Parker Ellen III, Hochwarter, & Ferris, 2014). However, research on the disadvantages of training personal initiative does not exist. The following are first ideas that need to be empirically examined.

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Personal initiative training gives people the chance to take initiative and change their life to be more successful. On the other hand, this kind of training is likely to increase aspirations. We experienced one example in the training for small and medium entrepreneurs in Lomé, Togo. During one of the training sessions, a participant said that she would like to complain. She was one of the most avid participants in the training. The very reason that the woman was so passionate about the training also caused problems. She explained that whenever she devoted herself to life outside work, she started to feel that she was wasting her time. She felt that even breastfeeding her baby took too much of her time. Although she was saying this with a grin in her face, the woman addressed an important challenge that everyone offering personal initiative training faces. Bolino, Valcea, and Harvey (2010) warned that the focus on and expectation of proactive behavior from employees in organizational settings may cause strain. Personal initiative training, in contrast to trainings that focus on teaching concrete skills like managerial skills, provides its participants with a potentially unlimited set of tasks. As it teaches a constant self-development towards an active approach to the environment, training participants may be dissatisfied because there is a constant increase in their aspiration levels. Increasing aspiration levels, in turn, leads to more and more tasks to do.

Another possible downside is the overconfidence that some participants develop as a result of the training. Overconfidence is a cognitive bias which leads to the overestimation of one's own abilities (Koellinger, Minniti, & Schade, 2007). In the domain of entrepreneurship, for example, overconfidence leads to underestimating risks and to unrealistic goals, making non-optimal decisions, and going for promising opportunities on the basis of ambiguous information (Frese & Gielnik, 2014; Hmieleski & Baron, 2008; Simon & Houghton, 2002). In our personal initiative training for small scale entrepreneurs, we encountered cases of entrepreneurs who

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developed unrealistic goals and plans as a result of their newly activated personal initiative. An example of this is that many entrepreneurs set the goal to move to a completely different locality to jump-start their businesses. For some of them, this goal is surely well-chosen and leads to the gain of new customers or the payment of lower rents. However, for some, this may also be the result of unrealistic expectations; they may believe that they can double their sales by simply changing the location. In these cases, the training may have led to an underestimation of obstacles. Trainers of personal initiative training should always emphasize a degree of realism. A balance between teaching to dare to change one's environment and the communication of a sense of reality is indispensable. Fortunately, the emphasis on searching for negative feedback and on managing errors instead of denying them may help here. Making small experiments and failures without too many risks involved is one possible method to avoid overconfidence.

In general, personal initiative training has been shown to be successful. However, a third challenge may be a high variance in participants' personal initiative that may appear as a result of personal initiative training. The majority probably gains a lot from the training. Nevertheless, some people may not change their behavior to a large extent. Although the training provides action principles giving action-oriented guidelines on how to increase personal initiative, certain participants may not be able to translate their personal initiative knowledge into fruitful personal initiative despite our efforts. The variance in training effects might be the result of individual differences. Strauss and Parker (2014) showed that future oriented participants were more able to benefit from a training focused on the increase in proactive behaviors by letting participants compare their current state with desired future states. However, we should also consider possible changes in training conditions that allow every training participant to benefit from personal initiative training. Further research is needed to shed light on the reasons for variance in training

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effects and to investigate which training supplements or additional measures could help to facilitate the translation of training content into personal initiative.

2.9 Recommendations for Research and Practice

We think that the personal initiative training for small scale entrepreneurs (Glaub et al., 2014) is promising as a strategy to enhance performance for different target groups in the work context. However, it is possible to improve training effectiveness.

One way to increase training effectiveness may be a better match of training participants to training design. We postulate that different training participants will react differently to different training contents. Gully and Chen (2010) propose a theoretical framework of attribute-treatment interactions. They state that cognitive, behavioral and affective training outcomes are dependent on an interaction between trainees' capabilities, demographics, personality traits and interests and values, and the training with its specific training design, features and situational characteristics. Up to now, there is a lack of research examining the training-trainee relationship and its influence on the training effectiveness in the area of proactivity training (Strauss & Parker, 2014).

To close this gap, researchers and practitioners should address the following aspects of proactivity training. First, we need to examine participant preconditions that facilitate or prevent training success. Possibly, personal initiative training can lead to extraordinary training benefits for those participants who already have set goals, but have given them up without trying. Some training participants reported that they were feeling as if the training woke them up and made them realize that they had to work hard to attain the goals that they had already had before. These participants often belong to those who benefitted the most from personal initiative

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training. This phenomenon can be well described by differentiating between goal intentions and implementation intentions. Goal intentions specify an outcome the individual desires and create a certain but still small commitment towards this outcome (Gollwitzer, 1999). A goal intention does not guarantee goal achievement because situational factors may distract a person from goal pursuit (Gollwitzer & Sheeran, 2006). Implementation intentions appear as a result of developing a plan which bridges goal intentions and actual behavior leading to goal attainment. The plan specifies when, where and how the individual responds to upcoming opportunities to reach a goal (Gollwitzer, 1999). Action training for personal initiative helps to develop plans. Participants who were already motivated by some goals now also find the means to attain them.

Second, research should identify trainer characteristics influencing participants' training success in proactivity training. We assume that trainers constitute a vital factor of training success in personal initiative training. Trainers can for example play a decisive role in increasing self-efficacy beliefs and control and responsibility aspirations regarding personal initiative work behavior. In the domain of white-collar occupation, Wu and Parker (in press) showed that leaders' support of employees in form of availability, encouragement of growth and noninterference lead to enhanced proactive employee behavior through the increase of self-efficacy and autonomous motivation. We hypothesize that the same relationship should be true in the trainer-trainee relationship. We saw this type of phenomenon in one of our trainings. During the last session of the training one of the most encouraging trainers asked his participants to give feedback on the training and to express what they had learned. An illiterate business woman selling dried fish in a market in Togo stood up and announced that the training had changed her life as she was now thinking of herself to be strong enough to improve her business practices despite her age and lack of education. In addition, although already at an advanced age, she

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decided to learn how to read and write in order to be more in control of her business. The other market women in her course started to applaud and affirmed that they were feeling the same way.

Third, future research should search for potential complements of personal initiative training. One possibility would be a combination of personal initiative training with classes teaching knowledge and skills that are relevant for the respective job situation. In this manner, practitioners could minimize the risk of participants engaging in useless or even harmful actions that might arise from their awakened personal initiative. In the context of entrepreneurship training, for example, we suggest the combination of personal initiative training with classes equipping participants with knowledge on business related topics like bookkeeping and market segmentation. We are convinced that learning from errors is a helpful method to correct former ineffective behavior. Nonetheless, we think that teaching skills can be a useful supplement to personal initiative training as it leads to a more effective correction of behavior after error making.

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3. When Thoughts Support Action: The Influence of Need for Cognition on Post-Training Maintenance of Personal Initiative

Abstract

Personal initiative training is a promising way to increase individuals' personal initiative in different work settings. Although this training has been shown to promote personal initiative in the short term, little is known about its long-term effects. The training transfer literature suggests that training effects usually decline with time. It is not clear which factors contribute to the maintenance of post-training personal initiative and thereby determine who holds up personal initiative and who reverts to old work routines. In a randomized controlled field experiment with 805 micro-entrepreneurs in Lomé, Togo, we investigate the influence of individuals' need for cognition on the maintenance of personal initiative after training. We demonstrate that people high in need for cognition show a reduced decline of post-training personal initiative. Our findings contribute to a better understanding of personal initiative training and its long-term effects and help to increase training effectiveness.

Keywords: personal initiative, proactive behavior, training, need for cognition, maintenance

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3.1 Introduction

Personal initiative can be defined as self-starting, future-oriented, and persistent proactive behavior (Frese & Fay, 2001). It is a key driver of success in various work settings: Studies have provided evidence for the positive influence of personal initiative on careers (Raabe, Frese, & Beehr, 2007), entrepreneurship (Glaub, Frese, Fischer, & Hoppe, 2014), and job search (Eden & Aviram, 1993; Wanberg, Zhu, & van Hooft, 2010). Given its positive effects, personal initiative is a behavior that should be promoted. The question is, however, how this can be done. Personal initiative has a genetic base (Li, W. D., Song, Z., Arvey, R. D., & Zhang, Z., 2013), but it can be enhanced by environmental conditions such as a favorable work design (Frese, Garst, & Fay, 2007) or transformational leadership (Den Hartog & Belschak, 2012).

Training has emerged as another effective way to increase personal initiative (Glaub et al., 2014; Raabe et al., 2007). Despite evidence that personal initiative training can increase personal initiative, little is known about how personal initiative can be maintained over time as a result of training. For this reason, it is difficult to create truly “wise interventions” (Walton, 2014) for personal initiative. Wise interventions are interventions that are premised on a precise understanding of what they are intended to change. Therefore, they have a strong and long-lasting influence. In short, we need to understand how and under which conditions personal initiative can be maintained over longer periods of time after training to develop a wise intervention for personal initiative which is able to make a difference in the training participants’ respective work behavior.

The training transfer literature demonstrates that training effects usually decrease over time (Arthur, Bennett, Stanush, & McNelly, 1998; Baldwin & Ford, 1988). However, studies

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suggest that personal characteristics play a key role in the maintenance of training effects (Burke & Hutchins, 2007; Grossman & Salas, 2011; van der Klink, Gielen, & Nauta, 2001).

Drawing on these insights, we examine the maintenance of personal initiative subsequent to training. More specifically, we shed light on the role of need for cognition for the maintenance of personal initiative. Need for cognition is the relatively stable tendency to engage in and enjoy cognitive activities (Cacioppo & Petty, 1982; Cacioppo, Petty, Feinstein, & Jarvis, 1996). It has been shown to positively influence performance in the context of problem solving (Coutinho, Wiemer-Hastings, Skowronski, & Britt, 2005; Nair & Ramnarayan, 2000), academic performance (Sadowski & Gülgös, 1996), and team performance (Kearney, Gebert, & Voelpel, 2009), as well as in the area of training (Espejo, Day, & Scott, 2005). We purport that need for cognition provides the necessary motivation to show personal initiative after training despite the considerable effort that people have to show in order to maintain personal initiative. The underlying reason is that people high in need for cognition enjoy the cognitive input that comes along with the unique experiences gathered through self-starting, future-oriented, and persistent behavior. Need for cognition therefore opposes the tendency to fall back into old routinized behavior after training.

Our study focused on micro-entrepreneurs in Lomé, Togo. There are two reasons why micro-entrepreneurs in developing countries are suitable for our study. First, personal initiative is crucial in entrepreneurship. Micro-entrepreneurs have to show personal initiative to be successful (Frese, 2009; Glaub et al., 2014; Krauss, Frese, Friedrich, & Unger, 2005) because entrepreneurship takes place in uncertain environments (McMullen & Shepherd, 2006) where unforeseen events are common and demand a proactive approach. Being proactive in view of the uncertain business environment is even more crucial for micro-entrepreneurs who may lack the

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financial reserves or help from strong business partners to deal with failure. Accordingly, being different from competitors to attract customers, anticipating and preparing for possible future problems and threats, and persisting in case of obstacles is all the more important. Second, training for personal initiative for entrepreneurs constitutes a promising bottom-up approach to reduce poverty in developing countries, because it increases the innovative power and economic empowerment of entrepreneurs. This again contributes to the countries' economic development (Frese, Gielnik, & Mensmann, 2016; Pick & Sirkin, 2010).

This study makes a contribution to the literature on personal initiative by offering a first answer to the question how the effects of personal initiative training can be maintained over time. It sheds light on the role of personal characteristics by investigating the role of need for cognition for post-training maintenance of entrepreneurs' personal initiative. To the best of our knowledge, this is the first study to consider need for cognition and its importance for the maintenance of personal initiative. This is relevant for two reasons: First, from a theoretical viewpoint, the study contributes to the literature on personal initiative training (Glaub et al., 2014; Mensmann & Frese, 2017; Raabe et al., 2007) and its effects, thereby creating a better understanding of the training. Second, from a practical viewpoint, practitioners can use the findings of this study to develop more effective and cost-efficient trainings that increase personal initiative and other proactive behaviors in the long run.

In addition, the study informs training transfer literature (Baldwin & Ford, 1988; Blume et al., 2010). It provides methodologically sound insights into intra-individual post-training skill decay, using an experimental design with a large sample size and several measurement waves which allow for the investigation of dynamic training effects over time. This approach is rare in

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training transfer research, where transfer is often measured in a static way, not taking into account intra-individual changes in training outcomes over time (Huang, Ford, & Ryan, 2016).

3.2 Theory and Hypotheses

3.2.1 The Effect of Personal Initiative Training on Personal Initiative Behavior

In this study, we first have to show that entrepreneurs' personal initiative is increased as a result of personal initiative training. The investigation of factors that maintain post-training personal initiative over time only makes sense if we can show that personal initiative training leads to an increase in personal initiative behavior. For this reason, we have to replicate the results of previous studies on personal initiative training (Glaub et al., 2014; Raabe et al., 2007; Searle, 2008).

These studies have shown that it is possible to increase personal initiative with the help of a training that requires individuals to display all dimensions of personal initiative (self-starting, future-oriented, and persistent behavior) throughout the action sequence (Frese & Zapf, 1994; Hacker, 1998) from goal setting to information search, planning, action execution, and feedback seeking. Personal initiative training combines a top-down and a bottom-up approach to create and refine operative mental models of personal initiative (Norman, 1983). Operative mental models are inner road maps that contain the necessary knowledge to show personal initiative. Participants develop and improve operative mental models by learning how to show personal initiative and by taking action. By working on cases and by completing a variety of exercises, participants learn how to show personal initiative behavior in their work contexts.

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In line with previous studies confirming the effectiveness of personal initiative training, we hypothesize a positive effect of personal initiative training on entrepreneurs' personal initiative behavior, i.e., they show more personal initiative after training.

Hypothesis 1. Personal initiative training has a positive effect on personal initiative behavior.

3.2.2 The Decreasing Effect of Personal Initiative over Time

We propose that the positive effect of personal initiative training on entrepreneurs' personal initiative behavior decreases over time. We build on the training transfer literature (Baldwin & Ford, 1988; Blume et al., 2010; Grossman & Salas, 2011) to explain post-training personal initiative decay over time. Training transfer is described as the use of knowledge and skills acquired through training back at work (Burke & Hutchins, 2007) and consists of two major dimensions, the dimension of generalization and the dimension of maintenance (Blume et al., 2010). Generalization means the extent to which training content is applied to the real-life setting. Maintenance describes how long training effects can be preserved over time (Blume et al., 2010). Concerning the long-term training transfer of personal initiative behavior, this means that entrepreneurs have to generalize the self-starting, future-oriented, and persistent behavior they acquired during the training to their businesses and then maintain personal initiative behavior over time.

We think that the training design of personal initiative training allows entrepreneurs to generalize personal initiative, as this training focuses on the application of personal initiative in their businesses from the beginning of the training. Personal initiative training fulfils three training conditions that enhance generalization (Grossman & Salas, 2011), namely behavior modeling elements (Bandura, 1977), error management training (Keith & Frese, 2008), and a

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realistic training environment (Kraiger, 2003). In line with the behavior modeling approach, personal initiative training works with role models and emphasizes feedback on entrepreneurs' actions (Glaub et al., 2014). In addition, drawing on the insights of error management theory (Heimbeck, Frese, Sonnentag, & Keith, 2003), personal initiative training creates a learning environment that facilitates action. Entrepreneurs are encouraged to make errors, which help them to refine their operative mental models of personal initiative (Norman, 1983). Because they complete exercises related to their work (Glaub et al., 2014), entrepreneurs learn in a realistic training environment.

Although the design of the training helps entrepreneurs to generalize personal initiative, we assume a decrease in personal initiative over time after the training because personal initiative is difficult to maintain. Maintenance is one of the critical factors of training (Baldwin & Ford, 1988). A meta-analysis by Arthur et al. (1998) suggests that training effects generally decrease over time, especially when they are trained and not reinforced afterwards. The maintenance of personal initiative in particular is challenging, as proactive behaviors are not a set of predefined skills that can be learned at one point in time; instead, they are situation-specific and therefore influenced by experiences that individuals make when they interact with their environment (Grant & Ashford, 2008).

In order to ensure maintenance, people need opportunities to practice newly developed skills back at work (Chiaburu & Marinova, 2005; Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012; Smith-Jentsch, Salas, & Brannick, 2001; Tracey, Tannenbaum, & Kavanagh, 1995). However, those opportunities are often rare for entrepreneurs. Instead, back in business, they are confronted with old routines and may revert to reactive behavior patterns, in part because personal initiative requires effort and motivation. Introducing changes in a self-starting, future-

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oriented, and persistent manner needs considerable time and resources. Innovative behavior can be perceived as very stressful and emotionally burdensome (Janssen, van de Vliert, & West, 2004). In contrast, maintaining the status quo is less demanding. Therefore, we assume that entrepreneurs change from showing personal initiative to the strategy of satisficing (Simon, 1956) after they have reaped the initial benefits of personal initiative behavior. Satisficing describes the phenomenon that people, induced by cognitive and environmental restrictions, often choose solutions that are good enough to achieve their goals instead of searching for the optimal solution to a given problem (Simon, 1956). In the context of our study, this means that entrepreneurs go back to their initial ways of managing their businesses instead of showing personal initiative to optimize business processes and outcomes.

The effortful nature of personal initiative combined with a lack of external motivation to show personal initiative back in the business could lead to a decrease in maintenance of personal initiative over time after the training.

Hypothesis 2. The positive effect of personal initiative training on personal initiative behavior decreases over time.

3.2.3 Need for Cognition as a Buffer for the Decreasing Effect of Personal Initiative Training

We argue that need for cognition buffers the decreasing effect of personal initiative training on personal initiative behavior. The literature on training transfer points to the importance of trainee characteristics for the maintenance of training effects (Baldwin & Ford, 1988; Colquitt, LePine, & Noe, 2000; Grossman & Salas, 2011). Popular investigated trainee characteristics for training transfer are cognitive variables, self-efficacy, training motivation, and the perceived utility of training (Grossman & Salas, 2011).

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While we acknowledge that those characteristics are certainly important for training transfer in general, we argue that in the context of personal initiative training, need for cognition plays a particularly crucial role for the maintenance of personal initiative. Need for cognition, defined as individuals' relatively stable tendency to engage in and enjoy cognitive activity that requires effort (Cacioppo & Petty, 1982), provides the necessary motivation needed to show personal initiative despite behavior options demanding less effort. People high in need for cognition possess an active and exploring mindset, which motivates them to acquire and process new information they can use to solve problems (Cacioppo et al., 1996).

In line with previous research on the influence of need for cognition on training outcomes (Espejo et al., 2005), we think that need for cognition has a positive influence on entrepreneurs' maintenance of personal initiative after training. One reason for this could be the positive attitude towards cognitive input. People high in need for cognition are more likely to create a strong and positive attitude toward issues they are confronted with (Haugtvedt & Petty, 1992; Wu, Parker, & Jong, 2014) and might therefore be more motivated to engage in this issue. This positive attitude should become stronger with increasing complexity of the issue, as people high in need for cognition enjoy effortful cognitive activity (Cacioppo & Petty, 1982). For entrepreneurs in particular, personal initiative is a source of complex cognitive input because it requires them to engage in self-starting, future-oriented, and persistent behavior in a constantly changing environment and in the face of adversity.

Following Wu et al. (2014), who showed that favorable environmental conditions replace the effect of need for cognition on behavioral outcomes such as innovation behavior, we suggest that entrepreneurs high in need for cognition should not show more personal initiative immediately after the training. At that point, the motivating effect of the training should

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substitute the effect of high need for cognition, so that entrepreneurs low in need for cognition should show as much personal initiative as entrepreneurs high in need for cognition.

Instead, we argue that high need for cognition helps entrepreneurs to maintain high levels of personal initiative after training when personal initiative becomes more effortful and the “low-hanging fruits” have already been “picked.” Research has shown that while people low in need for cognition do not spend their cognitive energy on thinking if they are not required to (Coutinho, 2006; Taylor, 1981), people high in need for cognition engage in activities that are cognitively challenging without necessarily being externally motivated (Carnevale, Inbar, & Lerner, 2011; Dornic, Ekehammar, & Laaksonen, 1991; Espejo et al., 2005) because they possess an intrinsic motivation to look for and process information from their surroundings (Coutinho et al., 2005). For personal initiative training for entrepreneurs, this means that the cognitive input represented by and resulting from personal initiative behavior should match their need for deep and continuous thinking. Personal initiative gives entrepreneurs high in need for cognition the means to engage in further effortful cognitive activity without any further environmental stimulation. This motivates entrepreneurs to show personal initiative despite a lack of external motivation and conflicting work routines. Therefore, entrepreneurs high in need for cognition should have a higher motivation to refrain from the strategy of satisficing (Simon, 1956) than entrepreneurs low in need for cognition.

Hypothesis 3. Need for cognition moderates the effect of personal initiative training on personal initiative behavior over time such that the effect of personal initiative training on personal initiative behavior decreases to a lesser degree for people high in need for cognition than for those low in need for cognition.

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3.3 Method

3.3.1 Procedure

We conducted our study with entrepreneurs in Togo in a project comparing two different trainings. Both trainings are meant to improve the business performance of micro-enterprises in developing countries. One of the trainings is personal initiative training and focuses on increasing personal initiative; the other training is a management training teaching classical methods of business management such as market segmentation or bookkeeping. For the purpose of this study, we only examined the effects of the personal initiative training and compared it to a non-training control group, as this training was designed to promote personal initiative in entrepreneurship.

The training consisted of 12 three-hour sessions over the course of four weeks and a four-month coaching program involving four three-hour coaching sessions. The coaching sessions supported a first application of personal initiative in participants' daily business routines. The training was based on action regulation theory (Frese & Zapf, 1994; Hacker, 1998) and aimed to increase personal initiative by entrepreneurs. We followed the training principles developed by Glaub et al. (2014).

We worked with local trainers, who then conducted the training with the participants. Prior to the training phase, we conducted a one-week train the trainer workshop with 20 experienced business trainers, who applied for the positions as trainers in the project. We then tested the training with 20 entrepreneurs and all 20 applicants, who each conducted a part of the training. The participants for this training were chosen from the pool of applicants who were not selected for the training project. After the pilot training, we selected 12 trainers. Selection criteria

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were the trainers' performance in the pilot training and their results in a written test on their declarative knowledge on personal initiative. Every trainer trained two groups of participants of about 20 people. We randomly assigned the groups to the trainers.

The final training phase took place in April 2014. The trainings were conducted mostly in French but also in one of the two most important local languages, Ewé and Kabiyé, whenever the participants did not understand a particular term in French. To ensure a high training quality, every training group was accompanied by a training intern, who recorded all training sessions, made sure that participants could follow the training without problems, and reported on problems experienced by members of the training group to the project coordinators. The interns also distributed evaluation forms asking for the participants' satisfaction at the end of every training session. To ensure that illiterate people could also complete the forms, the questions were read out loud, and the participants expressed their level of satisfaction with the training with the help of Kunin scales (Kunin, 1955). The trainer of the train the trainer workshop and a student assistant checked all training videos and evaluation forms and visited each training group several times to evaluate the quality of the training.

The coaching phase took place between May and August 2014. The coaching was based on personal projects that the training participants developed at the end of the training and that they were supposed to realize in their own businesses within the following four months. Every trainer visited each of their training participants four times to ensure the realization of the personal projects and thereby the application of the training content.

We conducted a randomized controlled field experiment to test our hypotheses. This study design allowed us to control for threats to the internal validity of our study (Campbell, 1957). To measure the training effect and the moderating role of need for cognition, we used a

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longitudinal pre-test post-test design with four measurement waves over a period of two years. The first measurement wave took place six months before the training (T1, October 2013). There were three follow-up measurement waves: one month after the training to assess short-term effects of training (T2, September 2014), five months after the training to assess mid-term effects of training (T3, January 2015), and 13 months after the training to assess long-term effects of training (T4, September 2015). To ensure the participation of control group members in our study, every participant that took part in a measurement wave received the chance to win a prize in a lottery and got a small gift (e.g. a notepad) at the end of every interview.

We collected data with the help of structured interviews. For this purpose, we trained a group of local interviewers at the beginning of every measurement wave. These interviewers were guided by a group of supervisors, who were trained to assess the quality of interviews. Interviewers and supervisors were blind to the conditions and goals of this study. We pre-tested all interview questions before we used them in the field to make sure that participants would understand them. Depending on the participants' command of French, the interviews were either conducted in French or in one of the two most important local languages.

3.3.2 Sample

The participants of our study were micro-entrepreneurs with less than 50 employees from a sector other than agriculture in Lomé, Togo. To exclude recent start-up businesses, the entrepreneurs' business had to be at least 12 months old. 3396 entrepreneurs applied for the training, which was advertised in a four-month communication campaign via radio, television, and word-of-mouth advertising by local partners. Of the 3396 entrepreneurs, 3320 fulfilled the predefined criteria and were eligible for the training. Using stratified sampling based on sector of activity, gender, level of business activity prior to the training, and profits prior to the training,

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we randomly assigned 500 applicants to our training group and 500 applicants to a non-treatment control group. We excluded 74 entrepreneurs who were assigned to the training group but did not come to any session or who mistakenly participated in the training from our study sample. In order to follow the guidelines for a true longitudinal design (Ployhart & Vandenberg, 2010), 121 entrepreneurs who did not take part in all measurement waves were also excluded from the sample. The final sample consisted of 2415 observations from 805 participants (397 in the training group and 408 in the control group), resulting in an average of 3 observations per participant.³ With the help of t-tests, we checked for pre-training differences between the training group and the control group for all study variables measured during the first measurement wave. We did not find any differences between the two groups. The participants' age ranged from 19 years to 73 years with a mean age of 41.3 years. 50.8% of entrepreneurs were female. 29.4% of the businesses were from the manufacturing sector, 45.3% in commerce, and 25.2% in the service sector.

3.3.3 Measures

To assure accuracy of wording, all measures were translated from English into French and back. In a next step, the measures were translated into the two local languages and into French again.

Personal initiative. We assessed personal initiative in the three follow-up measurement waves (T2-T4) with interview questions adapted from Frese, Kring, Soose, and Zempel (1996), which were also used by Glaub et al. (2014). Following Frese et al. (1996), we assessed quantitative and qualitative personal initiative. We defined and measured quantitative personal

³ In order to check the robustness of our results, we also conducted the analyses with 926 participants, including those participants that did not provide data on all measurement waves. We found the same pattern of results in all models.

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initiative as the number of changes participants made concerning their business in the previous six months. Two independent local coders rated quantitative personal initiative at every measurement wave by counting the changes and taking into account whether the change was rather a minor change that did not require much effort by participants (coded as “1”) or a major change that required considerable effort because they had to find the necessary means (information, financial means, or others) to realize the change (coded as “2”). For example, rearranging products on a shelf was regarded as a minor change, whereas purchasing an expensive machine for the business was a major change. The sum of the weighted changes constituted quantitative personal initiative. Intra-class correlation coefficients (ICC; Shrout & Fleiss, 1979) showed good reliabilities throughout the different measurement waves (ICC between .93 and .94). Thus, we used the means of the coders’ ratings as measures of quantitative personal initiative. Qualitative personal initiative was measured with the help of interview questions asking for the change requiring the most effort. We asked whether the participants had shown initiative by developing the idea for the change by themselves and by implementing the change on their own and in a different way than other businesses. The answers of the participants were coded on a scale from zero (no change, therefore no qualitative initiative at all) to five (high qualitative personal initiative). We used the coding scheme by Glaub et al. (2014) and adapted it to the Togolese context to rate the participants’ answers. Similar to the procedure for quantitative initiative, two independent local coders rated the level of qualitative personal initiative. Reliabilities between the coders’ ratings were good throughout the different measurement waves (ICC between .95 and .97), so we once again used their rating means to measure qualitative personal initiative.

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Training participation. We measured training participation as a dummy variable indicating whether the participants were assigned to the training or not. Participants in the control group received the value “0,” whereas those in the training group received the value “1.”

Time. The time measure reflects the number of the follow-up measurement waves used to examine the maintenance of personal initiative subsequent to the training. For the first follow-up measurement wave (T2), we coded time as “1,” for the second (T3) as “2,” and for the third (T4) as “3.”

Need for cognition. In the first measurement wave (T1), we asked for the participants’ level of need for cognition with nine items adapted from Cacioppo, Petty, and Kao (1984; $\alpha = .68$). With the help of a pre-test before the first measurement wave, we identified those nine items as the items with the highest comprehensibility for our study context. A sample item was “I would prefer complex to simple problems.” Answers were rated on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).

Control variables. We measured all control variables in the first measurement wave. We included participants’ gender (0 = male, 1 = female) and age in years as control variables. We controlled for sector by including two dummy variables for commerce (0 = not in commerce, 1 = in commerce) and service (0 = not in service, 1 = in service) in the model. The reference category for sector is manufacturing. As changes are sometimes easier to realize with the necessary financial means, we also controlled for business profits in the previous full month (in CFA-Franc). Proactive personality is one of the factors influencing proactive behavior such as personal initiative (Bindl & Parker, 2011). To measure personal initiative as a trait (Tornau & Frese, 2013), we included the seven-item scale by Frese, Fay, Hilburger, Leng, and Tag (1997). A sample item was “I take initiative immediately even when others don’t.” The internal

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consistency of the scale was good ($\alpha = .73$). Answers were rated on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).

3.3.4 Method of Analysis

Our data set includes 2415 observations from 805 participants. We conducted growth modeling using random coefficient models to test our hypotheses. By doing so, we took into account that the different measurements of personal initiative are nested within our participants and thus avoided biased parameter estimates (Bliese & Ployhart, 2002).

3.4 Results

Table 3.1 shows the descriptive statistics and inter-correlations of our study variables. We found positive auto-correlations of quantitative and qualitative personal initiative (between $r = .30$ and $r = .38$ for quantitative and between $r = .23$ and $r = .35$ for qualitative personal initiative), indicating moderately stable constructs. Moreover, measures of quantitative and qualitative personal initiative showed high correlations within one measurement wave (between $r = .63$ and $r = .77$), indicating that both quantitative and qualitative personal initiative, despite content-related differences, represented the construct of personal initiative.

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Table 3.1

Means, Standard Deviations, and Correlations of Study Variables

Variables	Time	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Quantitative personal initiative	T2 ^a	2.13	1.86													
2. Quantitative personal initiative	T3	1.44	1.63	.38**												
3. Quantitative personal initiative	T4	0.88	1.20	.30**	.34**											
4. Qualitative personal initiative	T2	2.46	1.48	.63**	.29**	.21**										
5. Qualitative personal initiative	T3	1.73	1.53	.31**	.71**	.31**	.35**									
6. Qualitative personal initiative	T4	1.32	1.51	.24**	.28**	.77**	.23**	.30**								
7. Training participation ^b	T1	0.49	0.50	.40**	.25**	.17**	.36**	.25**	.15**							
8. Need for cognition	T1	3.45	0.57	.11**	.05	.09*	.04	.05	.12**	.02						
9. Gender ^c	T1	0.51	0.50	-.16**	-.07*	-.02	-.07	.00	-.01	-.01	-.12**					
10. Age	T1	41.25	9.79	-.14**	-.09*	-.11**	-.11**	-.08*	-.11**	-.01	.02	.15**				
11. Sector – Commerce ^d	T1	0.45	0.50	-.09*	-.04	.04	-.01	.03	.02	-.01	-.11**	.47**	.10**			
12. Sector – Service ^e	T1	0.25	0.43	.02	.00	-.01	-.03	-.06	-.04	.01	.08*	-.28**	-.07	-.53*		
13. Business profits last month	T1	92238.48	197482.61	.07*	.08*	.04	.02	.07	-.01	-.02	.01	-.07	-.01	.09**	-.04	
14. Personal initiative scale	T1	4.26	0.45	.10**	.04	.04	.00	.04	.09*	-.02	.46**	-.11**	.02	-.10**	.03	.05

Note. N = 805; ^aT1= before the training, T2=short-term effects measurement wave, T3=mid-term effects measurement wave, T4=long-term effects measurement wave; ^b 0=no, 1=yes; ^c 0 = male, 1 = female; ^d 0 = other, 1 = Commerce; ^e 0 = other, 1 = Service; reference category for d & e: Manufacturing; * p < .05; ** p < .01.

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3.4.1 Test of Hypotheses

Hypothesis 1 stated that there is a positive effect of personal initiative training on personal initiative. Model 1.2 and Model 2.2 in Table 3.2 show the results of our analyses. As hypothesized, personal initiative training had a significant positive effect on quantitative personal initiative ($b = 0.91, p < .01$) and qualitative personal initiative ($b = 0.77, p < .01$).

Hypothesis 2 stated that the positive effect of personal initiative training on personal initiative decreases over time. To test this hypothesis, we included an interaction term of the mean centered time variable and the mean centered training participation variable in our model. Model 1.3 Model 2.3 in Table 3.2 show that there was a significant negative effect of the interaction term on quantitative personal initiative ($b = -0.55, p < .01$) and qualitative personal initiative ($b = -0.30, p < .01$), confirming the hypothesized decline. An additional finding was the negative significant main effect of the time variable on quantitative personal initiative ($b = -0.63, p < .01$) and qualitative personal initiative ($b = -0.57, p < .01$).

In Hypothesis 3, we assumed a moderating effect of need for cognition on the post-training maintenance of personal initiative. We focused on the maintenance of personal initiative in the training group of our sample ($N=397$) to test this hypothesis. We included an interaction term of the mean centered time variable and the mean centered need for cognition variable in our model. Model 1.3 and Model 2.3 in Table 3.3 show the results of our analyses. As expected, we found a significant interaction effect of the two-way interaction term of time and need for cognition on qualitative initiative ($b = 0.17, p < .05$). However, contrary to our expectations, the two-way interaction did not have a significant effect on quantitative personal initiative ($b = -.09, p = ns$).

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Table 3.2

Growth Models Testing the Training Effect and the Training Effect over Time on Quantitative and Qualitative Personal Initiative

Variables	Quantitative Personal Initiative						Qualitative Personal Initiative					
	Model 1.1		Model 1.2		Model 1.3		Model 2.1		Model 2.2		Model 2.3	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Gender ^a	-0.21*	(0.09)	-0.20**	(0.09)	-0.14	(0.08)	-0.06	(0.09)	-0.05	(0.08)	-0.06	(0.08)
Age	-0.02**	(0.00)	-0.02**	(0.00)	-0.02**	(0.00)	-0.02**	(0.00)	-0.01**	(0.00)	-0.01**	(0.00)
Commerce ^b	-0.03	(0.11)	-0.03	(0.10)	0.01	(0.09)	0.01	(0.10)	0.00	(0.09)	0.00	(0.09)
Service ^c	-0.08	(0.11)	-0.10	(0.10)	-0.07	(0.10)	-0.19	(0.10)	-0.20*	(0.10)	-0.20*	(0.10)
Profits	0.00*	(0.00)	0.00**	(0.00)	0.00*	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)
PI	0.19*	(0.09)	0.21*	(0.08)	0.17*	(0.08)	0.14	(0.09)	0.16*	(0.08)	0.15	(0.08)
Training ^d			0.91**	(0.07)	0.91**	(0.08)			0.77**	(0.07)	0.77**	(0.07)
Time					-0.63**	(0.03)					-0.57**	(0.03)
Training× time					-0.55**	(0.07)					-0.30**	(0.06)
-2x log (lh)	9196.57		9064.52		8606.35		8979.82		8875.94		8563.38	
df	798		797		797		798		797		797	

Note. N = 805; ^a0 = male, 1 = female; ^b0 = other, 1 = commerce; ^c0 = other, 1 = service; reference category for b & c: manufacturing;

^d0=no, 1=yes; Profits = business profits in the last month; PI= personal initiative scale; (lh) = likelihood; df= degrees of freedom;

* $p < .05$; ** $p < .01$.

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Table 3.3

Growth Models Testing the Effect of Need for Cognition on the Decrease in Quantitative and Qualitative Personal Initiative after Training

Variables	Quantitative Personal Initiative						Qualitative Personal Initiative					
	Model 1.1		Model 1.2		Model 1.3		Model 2.1		Model 2.2		Model 2.3	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Gender ^a	-0.20	(0.13)	-0.18	(0.13)	-0.18	(0.13)	-0.00	(0.10)	-0.03	(0.11)	-0.03	(0.11)
Age	-0.01*	(0.01)	-0.01*	(0.01)	-0.01*	(0.01)	-0.00*	(0.00)	-0.00	(0.00)	-0.00	(0.00)
Commerce ^b	-0.01	(0.14)	-0.02	(0.15)	-0.02	(0.15)	0.04	(0.12)	0.05	(0.12)	0.05	(0.12)
Service ^c	-0.09	(0.15)	-0.12	(0.16)	-0.12	(0.16)	-0.17	(0.13)	-0.17	(0.13)	-0.17	(0.13)
Profits	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)
PI	0.29*	(0.13)	0.16	(0.15)	0.16	(0.15)	0.18	(0.11)	0.09	(0.12)	0.09	(0.12)
NFC			0.22	(0.11)	0.24*	(0.11)			0.09	(0.09)	0.13	(0.09)
Time			-	(0.05)	-0.90**	(0.05)			-	(0.05)	-0.72**	(0.05)
			0.90**						0.72**			
NFC× time					-0.09	(0.09)					0.17*	(0.08)
-2x log (lh)	4732.53		4489.92		4491.79		4383.71		4133.94		4132.00	
df	390		389		389		390		389		389	

Note. N = 397; ^a 0 = male, 1 = female; ^b 0 = other, 1 = commerce; ^c 0 = other, 1 = service; reference category for b & c: manufacturing; Profits = business profits in the last month; PI= personal initiative scale; NFC= need for cognition; (lh) = likelihood; df= degrees of freedom; * p < .05; ** p < .01.

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To illustrate the interaction effect of the two-way interaction of time and need for cognition on qualitative personal initiative, we followed the procedures by Aiken and West (1991) and Dawson (2014). We plotted the slopes at high (+ 1 SD above the mean) and low values (- 1 SD above the mean) of need for cognition (see Figure 3.1). Simple slope analysis revealed that both slopes were negative and significant and that the decrease in qualitative personal initiative for low levels of need for cognition was stronger (low need for cognition = -0.82 , $t(389) = -12.88$, $p < .01$) than for high levels of need for cognition (high need for cognition = -0.62 , $t(389) = -9.67$, $p < .01$).

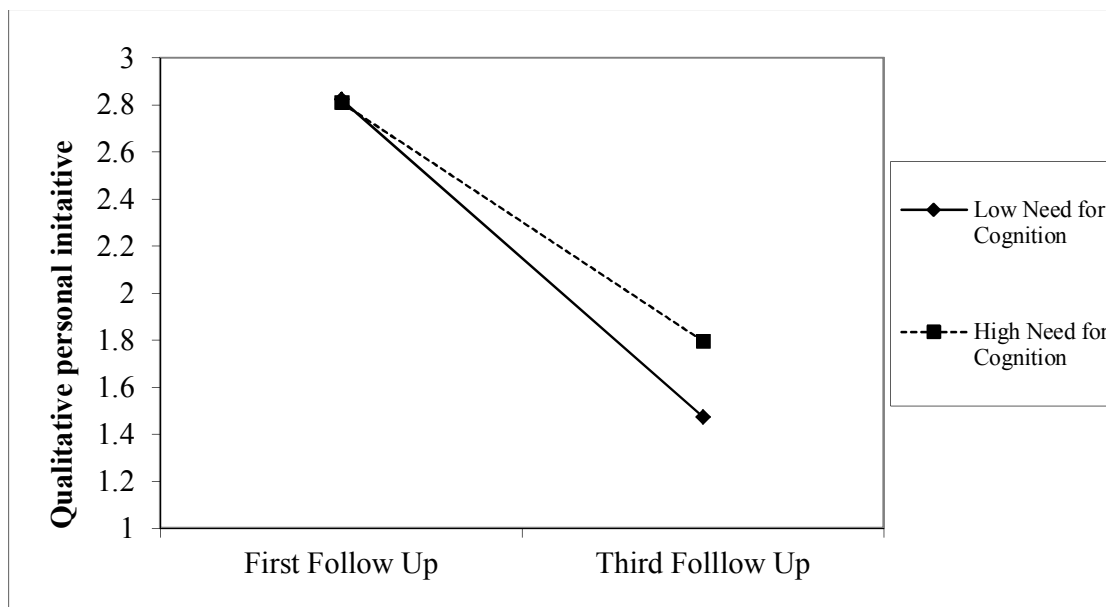


Figure 3.1. The Effect of Need for Cognition on the Decrease in Qualitative Personal Initiative after Training

3.5 Discussion

With the current study, we wanted to gain deeper insights concerning the post-training maintenance of personal initiative and its decrease over the course of time. More specifically, we analyzed the role of need for cognition for the maintenance of personal initiative. Confirming our

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hypotheses, we found that personal initiative training had a positive effect on personal initiative behavior (Hypothesis 1). Also, post-training personal initiative decreased over time (Hypothesis 2). As expected, we found that entrepreneurs high in need for cognition showed a weaker decline in qualitative personal initiative after training compared to those low in need for cognition (Hypothesis 3). Contrary to our expectations, we could not confirm this effect of need for cognition on quantitative personal initiative. Our results have important implications for theory and practice.

3.5.1 Theoretical Implications

We contribute to the literature on proactive behavior and personal initiative, as well as to the training transfer literature in several ways; First, our findings improve the theoretical knowledge on how to best train personal initiative by providing insight on long-term maintenance of personal initiative subsequent to training. Our results indicate that post-training personal initiative does not remain at a constant level but decreases over time, which indicates that we have to move away from looking at “snapshots” (Walton, 2014, p. 76) that only examine post-training personal initiative at one point in time, and move towards looking at the long-term maintenance of personal initiative behavior subsequent to training and its determining factors. The comprehensive understanding of post-training maintenance of personal initiative is a precondition for the development of wise interventions (Walton, 2014) that are based on profound knowledge about personal initiative and are able to produce long-term change in training participants’ level of personal initiative.

Second, our study offers a more in-depth view on inter-individual differences that explain the long-term effects of training on personal initiative and other proactive behaviors. To date, there are only very few empirical insights into individual characteristics that contribute to the

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success of training for proactive behavior. Strauss and Parker (2015) took the initial step by analyzing the influence of individual characteristics on the success of training for proactive behavior. We complement this research by examining the role of need for cognition for personal initiative training, while also taking into account the dynamic development of personal initiative over time. We think that our findings can be generalized to all behaviors that are challenging and need motivation to be maintained, all of which should be affected by individuals' need for cognition when being trained. This includes but is not limited to: proactive work behaviors like voice (van Dyne & LePine, 1998); proactive strategic behaviors like issue selling (Morrison & Phelps, 1999); and proactive person-environment fit behaviors like job change negotiation (Ashford & Black, 1996; Jones, 1986; Nicholson, 1984; Parker & Collins, 2010). Our findings can therefore be of use for the broader training transfer literature investigating beneficial factors for training effect maintenance, where the knowledge on intra-individual change over time subsequent to training is to date very limited (Huang et al., 2016).

Third, we answer the call for a more thorough investigation of the role of cognition for proactive behavior (Bindl & Parker, 2017). Although research has shown that need for cognition affects proactive behavior (Wu et al., 2014), we still lack explanations for how need for cognition and other cognitive variables influence the way people take action (Bindl & Parker, 2017). With our study, we make a first effort by explaining how need for cognition sustains training effects of personal initiative training. Our study provides a basis for more empirical research on intrinsic cognitive dispositions and motivations that have to be considered or enhanced in order to increase personal initiative and other proactive behaviors in different contexts.

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3.5.2 Practical Implications

Our study has important implications for practitioners. According to attribute-treatment-interaction literature (Gully & Chen, 2010), training is more effective if the training content matches the respective background, capabilities, traits, and interest of training participants. This means that in addition to improving training contents and providing a stimulating transfer climate, organizations and training providers should also consider assessing the level of need for cognition before selecting training participants, particularly if the goal of their training program is to increase proactive behavior. Organizations and training providers could use this information in different ways. First, they could select people high in need for cognition before starting training. Second, although need for cognition is relatively stable (Cacioppo et al., 1996; Cacioppo & Petty, 1982), they could try to stimulate participants' need for cognition before training as research also reveals that it can be influenced by the situation (Cacioppo et al., 1996).

In view of our findings that show a declining effect of personal initiative training on personal initiative for people high and low in need for cognition, practitioners should furthermore think about post-training measures to renew training effects. Research has shown that post-training interventions like goal setting interventions or guided reflection can help to reinforce training effects (Lee & Sabatino, 1998; Richman-Hirsch, 2001; Salas et al., 2012). For personal initiative training, offering booster sessions that reinforce training contents is a suitable way to renew personal initiative, and participants high and low in need for cognition would probably benefit from such sessions in different ways. For training participants low in need for cognition, booster sessions might at least temporarily compensate for their low level of need for cognition after training (Wu et al., 2014) and allow them to maintain personal initiative longer.

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For participants high in need for cognition, the sessions can once again spark their motivation to show personal initiative.

3.5.3 Limitations and Future Research

Our study shows considerable methodological strengths. We conducted a randomized controlled field experiment with one pre-training measurement wave and several post-training measurement waves, allowing for the detection of causal relationships and the analysis of long-term effects. In order to control for various threats to internal validity (Campbell, 1957), we ensured thorough quality control throughout the experiment and the measurement waves (e.g., by recording the sessions, handing out questionnaires asking for participants' training satisfaction, and pre-testing the training and measurement instruments). Nevertheless, the study shows some limitations that future research should address.

One limitation of this study is that need for cognition is only one of many possible influence factors in the area of personal initiative training. We acknowledge that there are many more individual characteristics that might affect the long-term consequences of personal initiative training. The literature on proactive behavior has shown that there is no single best predictor of personal initiative or other forms of proactive behavior, but that proactive behavior is shaped by different individual dispositions (Bateman & Crant, 1993; Fuller & Marler, 2009; Seibert, Crant, & Kraimer, 1999; Tornau & Frese, 2013); situational demands and supports (Baer & Frese, 2003; Frese et al., 2007; Sonnentag, 2003); and the focus of the behavior (Belschak & Den Hartog, 2010; Parker & Collins, 2010). Our study also examines only one of many individual factors that determine whether proactive behavior training leads to a long-term change in proactive behavior. However, this study sets the stage for further research on the role of

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dispositional factors for proactive behavior training. Future research should therefore complement the list of beneficial factors.

Additionally, high need for cognition in this study has a positive impact only on the decline of qualitative personal initiative, but not on the decline of quantitative personal initiative. There are two possible explanations why need for cognition did not affect the participants' maintenance of quantitative personal initiative. First, although our measure of personal initiative has the advantage of being very detailed and action-based, it may not be sensitive enough to capture quantitative personal initiative. A more sensitive measure might be needed to better assess the quantitative aspects of personal initiative. Future research would benefit from studies aiming at the development of personal initiative measures that are sensitive but at the same time action-based.

Second, need for cognition might only be relevant for qualitative personal initiative, as this part of personal initiative is cognitively challenging. Need for cognition plays a role particularly for intellectual task performance (Coutinho, 2006). People high in need for cognition have the tendency to process information more deeply (Graham, 2007). Qualitative personal initiative implies that one thinks of new ideas continuously; this makes the behavior attractive for individuals high in need for cognition. Thus, people high in need for cognition should maintain high levels of processing self-starting, future-oriented and persistent ideas at their workplaces (qualitative personal initiative). In contrast, high quantitative personal initiative implies a great deal of action rather than increased deep thinking. Therefore, need for cognition should have a weaker effect on quantitative personal initiative.

Another limitation might be the overall decreasing trend in personal initiative, which indicates that people in the control group also showed a decrease in personal initiative. Although

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the control group received no treatment during the study period, personal initiative in this group did not remain stable over time. One possible explanation for this is that people in the control group tried to convey a positive image of themselves and their business in order to get the chance to participate in similar training in the future. Although we communicated that participation in our study did not come with any benefits in the form of training or financial support, control group participants often told us that they hoped they could take part in future training. This hope weakened from measurement wave to measurement wave and the reduction of hope may have contributed to a lower degree of personal initiative over the measurement waves.

Finally, a question that we have to ask ourselves is whether our results can be generalized to other work contexts. We conducted our study in the context of micro-entrepreneurship in developing countries. We cannot be sure whether we would find the same effects of training and need for cognition on the maintenance of personal initiative for employed workers or in industrialized countries. The context of entrepreneurship in developing countries is, however, very suitable for our study as personal initiative plays a particularly important role in entrepreneurship (Frese, 2009; Glaub et al., 2014; Krauss et al., 2005) and personal initiative training can contribute to the economic development of developing countries (Frese et al., 2016; Pick & Sirkin, 2010). Additionally, similar trainings in the context of employed work and unemployment (Raabe et al., 2007; Searle, 2008) suggest that personal initiative training should work equally well for other occupational groups.

3.5.4 Conclusion

In order to attain long-term change in personal initiative with the help of training, it is important to understand the key influence factors that contribute to the maintenance of personal

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initiative after training. Our study constitutes a starting point for the investigation of such influence factors that determine the long-term success of personal initiative training.

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4. Psychological Training for Entrepreneurs To Take Action: Contributing to Poverty Reduction in Developing Countries⁴

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, developing countries

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4.1 Introduction

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, 2014). 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

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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.

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

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.

4.3 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, 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

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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.

4.4 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 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.

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Table 4.1

Crossing Action Regulation Theory and Personal Initiative Theory to Develop Action Principles (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 4.1 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 this way an implementation intention is produced (Gollwitzer, 1999). Fifth, by providing mastery experience in practical start up activities, the training also

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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 4.1 for the model and results of STEP).

4.5 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 progress⁵.

⁵ 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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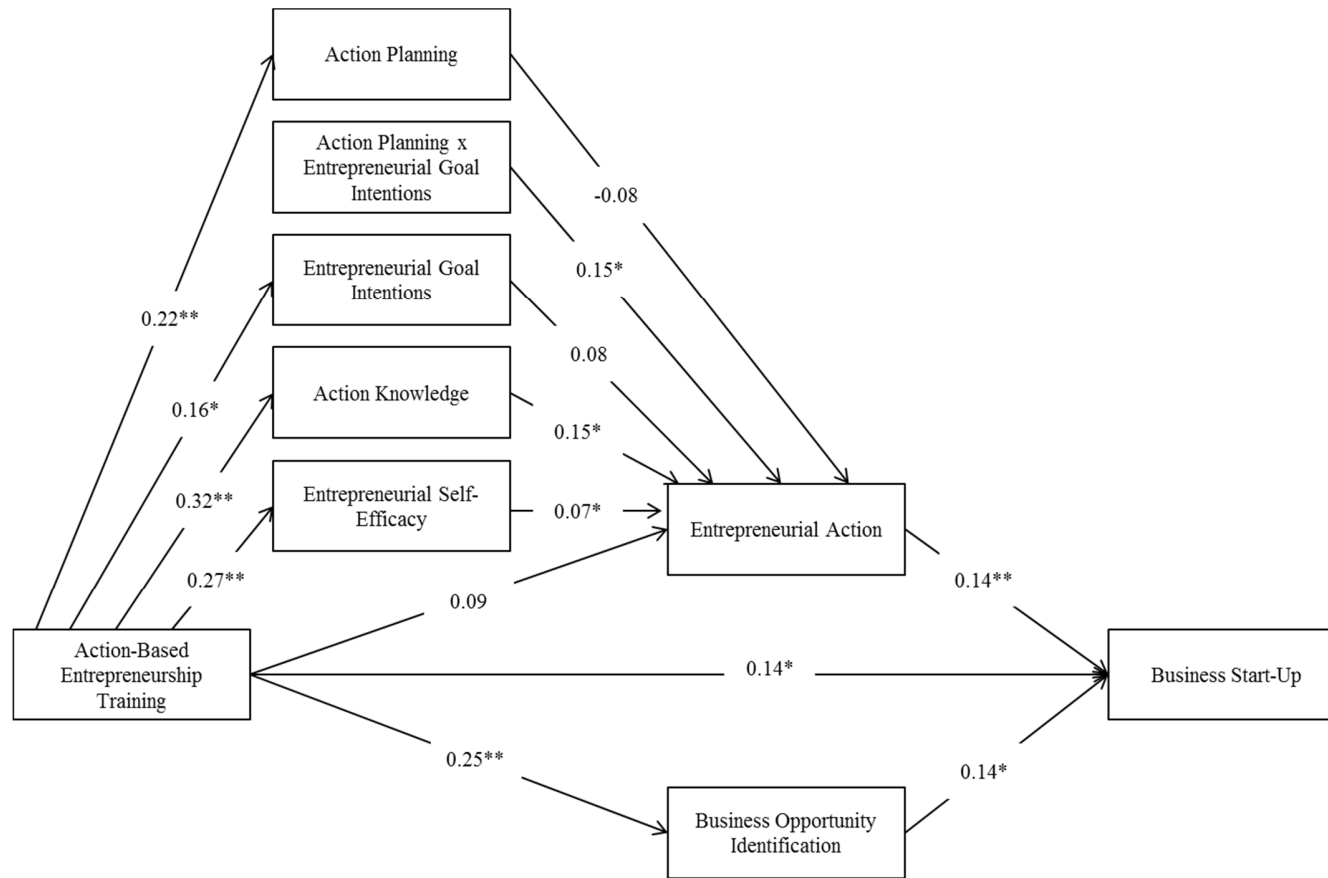


Figure 4.1. A theoretical and empirical model of the impact of Student Training for Entrepreneurial Promotion (STEP training; Gielnik et al., 2015). Values indicate standardized path coefficients; * $p < .05$; ** $p < .01$.

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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 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 4.2). In Table 4.2 we present an overview of the STEP trainings

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we have implemented and evaluated so far. The table also provides the impact of the training on start-ups after one year.

Table 4.2

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 after 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

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

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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).⁶

4.6 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 4.1 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 feedback processing.

⁶ Video cases of other participants are on '<https://youtu.be/AiyF-R20ywQ>' and '<https://youtu.be/t9FFZF7X7RM>'

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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. The STEP training significantly increased the number of entrepreneurs. Moreover, 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

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psychological theories of action and self-regulation to understand and enhance entrepreneurship. This evidence-based and scientific psychological approach to "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.

4.7 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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5. From Caring to Daring: How Personal Initiative Training Impacts Female Entrepreneurs' Business Success in Developing Countries

Abstract

While female entrepreneurship has important impacts on economic development, especially in developing countries, female-owned businesses obtain lower profits and lower growth rates than male-owned businesses. We conduct a randomized controlled field experiment with 1196 entrepreneurs in Lomé, Togo, to determine whether personal initiative training constitutes a way to enhance female entrepreneurs' business success and to close this gender gap. Basing our argumentation on social role theory and the process model of entrepreneurial action, we argue that because of their social gender roles female entrepreneurs perceive that entrepreneurial action incurs higher risks and lower returns. We hypothesize that personal initiative training leads female entrepreneurs to decrease perceived risks of entrepreneurial action by increasing their entrepreneurial self-efficacy and error competence and to increase their perceived returns of entrepreneurial action by increasing entrepreneurial passion, which ultimately leads to female entrepreneurs' business success. The results largely support our hypotheses. This study contributes to the literature on the gender gap in entrepreneurship and has important implications for entrepreneurial training interventions.

Keywords: female entrepreneurship, entrepreneurship in developing countries, personal initiative training, social role theory, entrepreneurial self-efficacy, error management, entrepreneurial passion

5.1 Introduction

Female entrepreneurs constitute one of the fastest growing entrepreneurial groups (Brush, de Bruin, & Welter, 2009). Research shows that female entrepreneurship is an important driver of economic and societal success (Allen, Langowitz, & Minniti, 2007; Minniti, 2010; Minniti & Naudé, 2010), as female entrepreneurs have a crucial positive impact on employment, innovation, and wealth creation (Brush & Cooper, 2012; Kickul, Gundry, & Sampson, 2007). Moreover, female entrepreneurs serve as role models that pave the way for further female entrepreneurs, especially in countries considering entrepreneurship as a male domain (Welter, Smallbone, Mirzakhlikova, Schakirova, & Maksudova, 2006). In developing countries, female entrepreneurship is significant for at least two reasons. First, female entrepreneurship leads to economic empowerment for women (De Mel, McKenzie, & Woodruff, 2014), by, for example, offering job opportunities that are reconcilable with family responsibilities (World Bank, 2013). Second, female entrepreneurship benefits communities, as female entrepreneurs use their earnings to support their families (Minniti & Naudé, 2010). Thus, female entrepreneurship constitutes a way out of economic misery for women and communities in developing countries.

Despite female entrepreneurs' important contribution to economic success, there is evidence that women have less entrepreneurial success compared to men (Kelley et al., 2013). Women are less likely to start a business (Fairlie & Robb, 2009; OECD, 2002; Shinnar, Giacomini, & Janssen, 2012) and female-led businesses are oftentimes smaller, less profitable, and lower in growth than businesses led by men (Jennings & Brush, 2013). For instance, sales estimates of female-owned businesses are approximately 80% lower than those of male-owned businesses (Fairlie & Robb, 2009). Despite evidence that female entrepreneurs' business success

is lower than male entrepreneurs' business success, the underlying reasons why female entrepreneurs show lower business performance remain a riddle to solve.

A second riddle that follows from the first is how female entrepreneurship can be supported to close the gender gap in entrepreneurial performance. Scholars have attempted to identify factors that help female entrepreneurs to succeed; one prominent approach that has been employed focuses on teaching female entrepreneurs management skills with the help of business training (McKenzie & Woodruff, 2014). Unfortunately, most studies on business trainings for women indicate that those trainings fail to support female entrepreneurs' business success (Berge, Bjorvatn, Juniwaty, & Tungodden, 2012; Bulte et al., 2016; Karlan & Valdivia, 2011; McKenzie & Woodruff, 2014). Thus, more effective training approaches to support female entrepreneurs are needed. To develop these approaches, a thorough understanding of the mechanisms through which business trainings need to affect female entrepreneurial action is indispensable. Such approaches are, however, very limited in the research to date (McKenzie & Woodruff, 2014).

With this study, we want to provide a possible solution to the riddles why female entrepreneurs show lower business success and how we can support female entrepreneurs to close this gender gap. We propose that the key to successful support of female entrepreneurs is to help them be more daring as they cope with the uncertainty of entrepreneurial action. We build our argumentation, first, on McMullen and Shepherd's (2006) process model of entrepreneurial action, which suggests that entrepreneurial action results from the decision to overcome the uncertainty that comes along with action. To overcome such uncertainty and to act, entrepreneurs need to be convinced that the returns of the action are higher than its involved risk (McMullen & Shepherd, 2006). Based on social role (Eagly, 1987; Eagly et al., 2000; Wood & Eagly, 2002),

we then argue that the socialization processes women face throughout their lives lead them to adapt caring rather than agentic roles. These socialization processes have two important negative effects on female entrepreneurs' capacity to overcome uncertainty. First, female entrepreneurs adopt a more risk-averse attitude toward entrepreneurship, leading them to perceive higher risks of entrepreneurial action than men. Second, female entrepreneurs value their entrepreneurial role and associated actions less than male entrepreneurs, leading them to perceive lower returns of entrepreneurial action.

We argue that personal initiative training (Glaub et al., 2014) is an effective means to help female entrepreneurs overcome uncertainty and thereby counter the influence of such social gender roles. Personal initiative training teaches personal initiative, which is defined as self-starting, future-oriented, and persistent proactive behavior (Frese & Zapf, 1994; Hacker, 1998). In contrast to traditional business trainings that teach management skills and build on the transfer of knowledge, personal initiative training fosters the competencies needed to overcome uncertainty. First, it decreases the perceived risks of entrepreneurial action by helping women to develop self-efficacy (Bandura, 1977) and by increasing their error competence (Rybowiak, Garst, Frese, & Batinic, 1999). Second, it increases their perceived returns of entrepreneurial action by augmenting female entrepreneurs' entrepreneurial passion (Murnieks, Mosakowski, & Cardon, 2014). These results of personal initiative training should ultimately lead to strengthened business success. Figure 5.1 depicts our theoretical model.

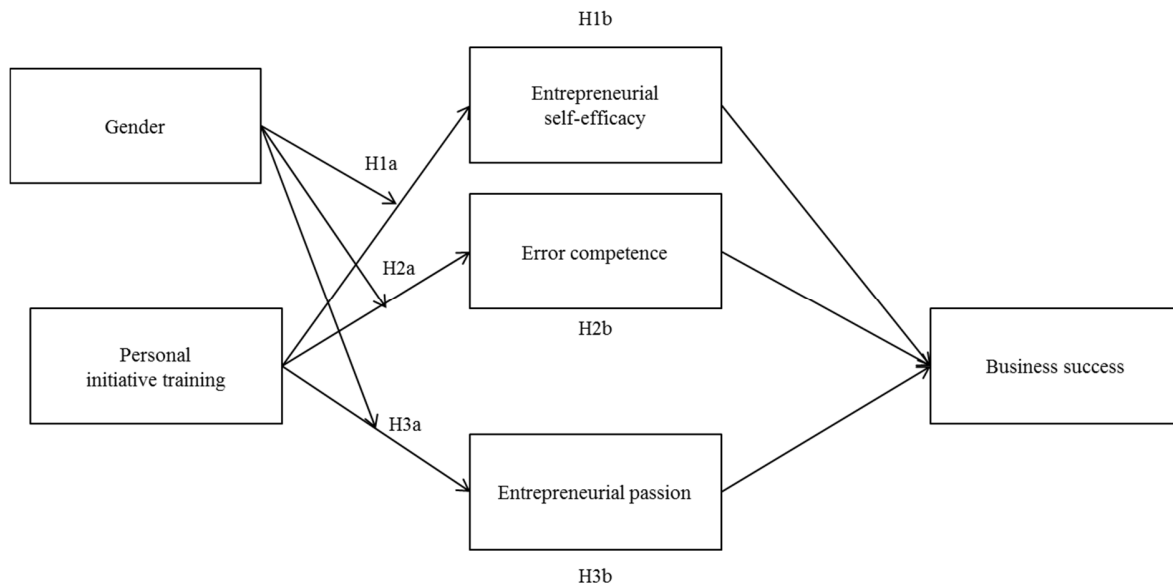


Figure 5.1. Our Theoretical Model

Using a randomized controlled field experiment with 1196 micro-entrepreneurs in Lomé, Togo, our study’s contribution to the theory on female entrepreneurship and proactive behavior is twofold. First, we add to the understanding of the gender gap in entrepreneurial success. We suggest that the negative risk/ return balance of entrepreneurial action constitutes a reason for the lower levels of success of female-owned businesses and explain this phenomenon with female entrepreneurs’ adopted social gender roles. Accordingly, we help to create a theoretical understanding of the problem of female entrepreneurs’ low business success. Second, we offer a solution to the problem of female entrepreneurs’ lower business success. We explain how personal initiative training helps female entrepreneurs to overcome the uncertainty of entrepreneurial action by fostering the competences and motivations they need to decrease perceived risks and increase perceived returns of entrepreneurial action. By doing so, this study provides guidance for the effective training of female entrepreneurs.

5.2 Theoretical Background

5.2.1 Entrepreneurial Action as an Outcome of the Risk/Return Dilemma

As the core of entrepreneurship is the entrepreneur who takes action to discover, evaluate, and exploit opportunities (Shane & Venkataraman, 2000), every theory that explains entrepreneurial phenomena should center on action (Frese, 2009). To identify how personal initiative training increases female entrepreneurs' business success, we use McMullen and Shepherd's (2006) process model of entrepreneurial action.

According to the model, entrepreneurs need to overcome uncertainty in order to act (McMullen & Shepherd, 2006). As the future cannot be foreseen, action is always accompanied by uncertainty (Mises, 1949). Especially in entrepreneurship, where innovative actions are crucial and continuously create unpredictable changes in the business and its environment, uncertainty plays a major role in the decision to act (Amabile, 1997; McMullen & Shepherd, 2006; Smith & DiGregorio, 2002). McMullen and Shepherd (2006) describe entrepreneurial action as a process that starts with an environmental stimulus, for example, a new business opportunity. To identify the opportunity, entrepreneurs need a certain degree of business knowledge and motivation. However, this does not automatically lead to entrepreneurial action. In order to act on the opportunity, entrepreneurs need to overcome action-specific uncertainty, by determining whether they will act on the opportunity. Entrepreneurs try to answer this question by comparing the perceived returns of an action with the perceived risks involved (Mitchell & Shepherd, 2010). Thus, taking action is the result of balancing the returns of an action against its involved risks in a "risk/return dilemma" (McMullen & Shepherd, 2006, p. 141), such that if the risks seem to outweigh the returns, an action is avoided while if the returns outweigh the risks,

an action is taken. Thus, there are two ways to increase the probability of entrepreneurial action: Decreasing the perceived risk or increasing the perceived returns of taking action.

5.2.2 The Impact of Female Entrepreneurs' Social Gender Roles on Perceptions of Risk and Return of Entrepreneurial Action

We build on social role theory (Eagly, 1987; Eagly et al., 2000; Wood & Eagly, 2002) to explain why female entrepreneurs' perception of risk involved in entrepreneurial actions might be higher compared to male entrepreneurs and why their perceived returns might be lower, hindering them to successfully act in their business. According to social role theory, the gender-driven division of labor and the power imbalance between men and women lead to different social gender roles (Eagly, 1987; Eagly et al., 2000). Social gender roles start to develop in childhood (Gupta, Turban, Wasti, & Sikdar, 2009) and result from gender stereotypes (Eagly & Steffen, 1984), that is, the shared beliefs about gender-specific characteristics and attributes (Fiske & Taylor, 1991; Gupta et al., 2009; Powell & Graves, 2003) that arise from the observation of gender-specific behavior. Stereotypes prescribe how men and women should behave (Gupta et al., 2009). One prevalent female stereotype is the caring family and community member who is responsible for the household; women are expected to spend more time with housework and care for family members (Jennings & McDougald, 2007).

Social gender roles have vast influence on female entrepreneurial behavior. Entrepreneurs are embedded in socio-cultural contexts (Noguera, Alvarez, & Urbano, 2013; Shinnar et al., 2012; Steyaert & Katz, 2004; Welter, 2011) and therefore their entrepreneurial actions are influenced by their social roles. Research illustrates that especially in the case of female entrepreneurship, socio-cultural factors are key drivers of entrepreneurial behavior (BarNir, 2012; Díaz-García & Jiménez-Moreno, 2010; Koellinger, Minniti, & Schade, 2011;

Langowitz & Minniti, 2007; Minniti & Nardone, 2007; Noguera et al., 2013). Social roles educate women to the role of caretakers instead of agentic providers (Wood & Eagly, 2002). This in turn affects their perceived skills, values, and motives (Wood & Eagly, 2002) and the way they perceive entrepreneurial opportunities (DeTienne & Chandler, 2007). Although specific roles such as occupational roles can mitigate gender differences in skills, values, and motives, social gender roles continue to exert their inhibiting influence (Eagly et al., 2000).

We argue that due to their gender-specific social roles, female entrepreneurs perceive higher risks and lower returns of entrepreneurial action, and this hinders them from overcoming uncertainty and taking entrepreneurial action. Regarding the higher risk perception, research underlines that female entrepreneurs have a higher risk-aversion (Carter, 2002; Johnson & Powell, 1994; Shinnar et al., 2012; Wagner, 2004), for example, to financial decisions and starting and growing businesses (Jianakoplos & Bernasek, 1998; Johnson & Powell, 1994; Langowitz & Minniti, 2007; Wagner, 2004). We assume that there are two important reasons why female entrepreneurs perceive higher risks regarding entrepreneurial action due to their social roles. First, the entrepreneurial role is associated with men (Jennings & Brush, 2013) whereas women are stereotypically associated with nourishing and caretaking roles (Wood & Eagly, 2002), which could make female entrepreneurs believe that they as women do not possess the necessary capabilities to succeed in entrepreneurship. Research suggests that even if female entrepreneurs have high skill levels, they do not believe that they possess the necessary capabilities to cope with the challenges of entrepreneurship (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Wilson, Kickul, & Marlino, 2007). Second, women are less socialized into showing the agentic behavior that involves self-assertion, self-expansion and the will to master (Bakan, 1966; Eagly & Steffen, 1984). Instead, they are socialized into showing subordinate

behavior (Eagly et al., 2000), and this could make them less daring in trying out agentic behavior that involves errors. Consequently, women might feel that they are less competent to deal with errors resulting from daring actions.

Regarding the lower return perception, we affirm that female entrepreneurs perceive lower returns from entrepreneurial actions because they develop less passion for their entrepreneurial role. The entrepreneurial role is not as central to the self-concept of women as it is for men. In order for them to be passionate about entrepreneurship, women have to feel that the entrepreneurial role is part of their identity (Murnieks, Mosakowski, & Cardon, 2011). The entrepreneurial role is, however, stereotypically seen as being suited to males (Jennings & Brush, 2013) to the degree that women can hardly identify with it. Research underlines this line of thought by showing that female entrepreneurs have less positive attitudes towards their role as entrepreneur and the business environment (Langowitz & Minniti, 2007).

In the following, we propose that personal initiative training can empower female entrepreneurs to overcome uncertainty regarding entrepreneurial action by influencing the two components of the risk/return dilemma. This, in turn, should lead to successful entrepreneurial actions and, eventually, business success: First, personal initiative training decreases the risk that female entrepreneurs perceive due to their internalized social roles by fostering their entrepreneurial self-efficacy and error competence; and, second, personal initiative increases the return that female entrepreneurs perceive due to their internalized social roles by promoting entrepreneurial passion.

5.3 Hypotheses Development

5.3.1 The Impact of Personal Initiative Training on Female Entrepreneurs' Business Success through Entrepreneurial Self-Efficacy

We contend that successful entrepreneurship training for female entrepreneurs must decrease their perceived risk of entrepreneurial action. One way to do this is to stimulate entrepreneurial self-efficacy, the belief that one is capable to successfully deal with the roles and tasks associated with entrepreneurship (Chen, Greene, & Crick, 1998). Research shows that entrepreneurial self-efficacy directly influences the amount of perceived risk involved in entrepreneurship (Krueger & Dickson, 1994). If entrepreneurs feel they are capable to successfully deal with the challenges of entrepreneurship, they should also perceive entrepreneurial action to be less risky.

As the entrepreneurial role is largely perceived to be male (Jennings & Brush, 2013), female entrepreneurs likely have lower entrepreneurial self-efficacy than male entrepreneurs, leading them to perceive higher risks of taking entrepreneurial action. Thus, trainings that foster entrepreneurial self-efficacy should be particularly beneficial for female entrepreneurs' increase in entrepreneurial self-efficacy.

We claim that personal initiative training, in contrast to knowledge-centered business trainings for entrepreneurs, fosters entrepreneurial self-efficacy through its focus on entrepreneurial action. Personal initiative training is based on action regulation theory (Frese, 2009; Frese & Zapf, 1994; Glaub et al., 2014; Hacker, 1998). The training promotes self-starting, future-oriented, and persistent behavior throughout the entrepreneurial action sequence from goal setting to information collection, planning, execution of action, and feedback seeking. The

training works with action principles which are simple rules of thumb of how to show personal initiative (Glaub et al., 2014). At the same time, the training is highly action-oriented and makes entrepreneurs show personal initiative throughout the training through work on case studies, transfer of the action principles to their own business environment, and the development of own personal projects for their businesses (for example the introduction of a new unique product that meets future market needs; for a detailed description of the training, see Mensmann & Frese, 2017).

The most effective source of self-efficacy is mastery experience which results from previous successful actions in a domain (Bandura, 1977; Wilson et al., 2007). Personal initiative training stimulates participants' action. They are instructed to show self-starting, future-oriented, and persistent behavior right from the beginning of the training with the help of action-centered exercises related to their real life business contexts. In addition, participants work on small business projects during the training (Glaub et al., 2014). By doing so, they target temporally proximal goals that create an immediate senses of achievement (Bandura & Cervone, 1983). These achievements constitute a source of mastery experience. Personal initiative also offers additional sources of self-efficacy, such as social models, social persuasion, and personal somatic and emotional states (Bandura, 1977) which the training provides through the possibility to observe other participants' personal initiative behavior in the training (social models), feedback on actions of participants (social persuasion) and the routinization of active entrepreneurial behavior, which makes participants feel in ease with this kind of behavior (personal somatic and emotional states). Thus, we hypothesize:

Hypothesis 1a. Personal initiative training increases entrepreneurial self-efficacy. The increase of entrepreneurial self-efficacy through personal initiative training is stronger for female than male entrepreneurs.

The decreased perceived risk through entrepreneurial self-efficacy gained in personal initiative training should result in beneficial entrepreneurial action, and therefore ultimately leads to increased business success. Research underlines that entrepreneurs high in self-efficacy focus on opportunities rather than on threats (Krueger & Dickson, 1994). This motivates entrepreneurs to put effort into entrepreneurial actions and persevere in case of barriers (Boyd & Vozikis, 1994). Consequently, entrepreneurial self-efficacy leads to strengthened business success, such as higher revenues and growth in employees (Baum & Locke, 2004; Baum, Locke, & Smith, 2001). Based on our argumentation, we hypothesize:

Hypothesis 1b. Personal initiative training leads to strengthened business success through an increase in entrepreneurial self-efficacy. The indirect effect of personal initiative training on business success through an increase in entrepreneurial self-efficacy is stronger for female than male entrepreneurs.

5.3.2 The Impact of Personal Initiative Training on Female Entrepreneurs' Business Success through Error Competence

A second way that training can reduce female entrepreneurs' perceived risk of entrepreneurial action is to foster error competence, defined as the "active knowledge for immediate recovery from errors and reduction in error consequences" (Rybowiak et al., 1999, p. 542). In the context of entrepreneurship, error competence reflects entrepreneurs' confidence in successfully dealing with errors that occur when they act in their businesses. Entrepreneurial endeavors take place in uncertain environments (Alvarez & Barney, 2005). Thus, errors can

always occur when acting in entrepreneurship. Errors are usually perceived as frustrating and frightening and the natural human reaction to errors is to avoid them (Keith & Frese, 2008) and with them also the underlying action. In contrast, if entrepreneurs have the feeling that they can deal with potential errors, they should be more likely to take the risk of entrepreneurial action.

A training promoting error competence should be especially beneficial for the increase of female entrepreneurs' error competence, as they are not socialized into showing agentic behavior (Bakan, 1966; Eagly & Steffen, 1984), which involves making errors and therefore should even be more afraid of making errors.

Personal initiative training increases entrepreneurs' error competence. Contrary to traditional business trainings that teach good business practices and focus on "doing it right," personal initiative training follows the principles of error management training (Keith & Frese, 2008) by teaching a positive approach towards errors. During personal initiative training, entrepreneurs are encouraged to actively show their newly developed personal initiative behavior and to make errors that, in turn, help to detect weaknesses in behavior (Mensmann & Frese, 2017). They then implement the new behavior and transfer their knowledge based on action principles to their own businesses (Glaub et al., 2014; Mensmann & Frese, 2017). By doing so, participants actively explore new behavior and make errors, which promotes their error competence (Frese & Keith, 2015). The training teaches them that those errors should not be considered negatively, but constitute a valuable source of learning how to improve existing behavior (Glaub et al., 2014). Thus, we predict:

Hypothesis 2a. Personal initiative training increases error competence. The increase of error competence through personal initiative training is stronger for female than male entrepreneurs.

The decreased perceived risk of entrepreneurial action through the increase of error competence in personal initiative training should in turn lead to strengthened business success. Entrepreneurs' error competence reduces fear of failure, which is defined as the "capacity for experiencing shame or humiliation as a consequence of failure" (Atkinson, 1966, p. 13). If the fear that action leads to failure the entrepreneur cannot deal with is too high, beneficial entrepreneurial actions are blocked. Error competence reduces this fear, as it provides confidence that entrepreneurs can deal with possible negative events that result from action errors. As a consequence, the threshold to show explorative behavior decreases and the individual starts to show active behavior (Frese & Fay, 2001), which should lead to a higher probability of business success. Based on our argumentation, we predict:

Hypothesis 2b. Personal initiative training leads to strengthened business success through an increase in error competence. The indirect effect of personal initiative training on business success through an increase in error competence is stronger for female than male entrepreneurs.

5.3.3 The Impact of Personal Initiative Training on Female Entrepreneurs' Business Success through Entrepreneurial Passion

A second pathway to foster female entrepreneurs' action and ultimately their business success through training is to increase their perceived returns when acting in entrepreneurship. The evocation of entrepreneurial passion is one promising way to do this. We consider entrepreneurial passion the key construct for motivation in the entrepreneurial context. Following Murnieks et al. (2014, p. 1587), we define entrepreneurial passion as a motivational construct that is characterized by a "strong, positive inclination toward entrepreneurial activities," and state

that the positive feelings regarding entrepreneurial activities can increase the perceived returns of entrepreneurial actions.

We suggest that the need for entrepreneurial passion is higher for female entrepreneurs because they are lower in entrepreneurial passion. Consequently, trainings that target building entrepreneurial passion should be more effective for female entrepreneurs. The reason for female entrepreneurs' lower entrepreneurial passion lies once again in their social gender roles. Research shows that entrepreneurial passion is inextricably linked with the feeling that entrepreneurship is a source of self-identity (Cardon, Wincent, Singh, & Drnovsek, 2009; Murnieks et al., 2014). The self consists of several identities that are hierarchically structured in a way so that some identities are considered more central and therefore more closely related to the own self-concept (Stryker & Burke, 2000). People only engage in those activities associated to the roles most important for their identities (Burke & Reitzes, 1991; Cardon et al., 2009). Identities are formed by internalized social roles that individuals accept as part of their own self-concept (Cast, 2004; Stryker, 1968; Stryker & Burke, 2000). As women's stereotypical social gender roles primarily involve the nurturing, caring mother and wife (Wood & Eagly, 2002) and entrepreneurship is typically described as a male domain (Jennings & Brush, 2013), many female entrepreneurs lack a strong entrepreneurial identity; being an entrepreneur only constitutes a minor part of their self. As such, they do not experience as much entrepreneurial passion as male entrepreneurs do.

We hypothesize that personal initiative training enhances entrepreneurial passion. Following Gielnik, Spitzmüller, Schmitt, Klemann, and Frese (2015), we suggest that entrepreneurial passion can result from entrepreneurial effort, because entrepreneurial effort facilitates progress, not only big achievements but also small steps on the way to an

entrepreneurial goal. This progress in turn provokes the positive feeling of passion (Gielnik, Spitzmüller et al., 2015). Personal initiative training, unlike traditional business trainings, combines a self-starting mindset with an action regulation approach that provokes effort (Glaub et al., 2014; Mensmann & Frese, 2017) and should therefore be more effective in inducing passion than a traditional, knowledge-based training. Entrepreneurs learn that they are responsible for their business success themselves, linking entrepreneurial actions with training participants' identity. At the same time, during training, entrepreneurs put effort into showing active behavior in changing their own businesses. They work on their self-set goals and implement their own action plans in personal projects. The personal projects are small business-related projects that entrepreneurs develop themselves and that they can realize within a few months. Consequently, early progress can be seen rather immediately. Due to their self-starting mindset induced by the training, entrepreneurs attribute this progress to their own personal initiative. We argue that the combination of perceived progress through effort and the self-starting mindset, which enables the attribution of this progress to own actions, should enhance the positive inclination towards entrepreneurship that defines entrepreneurial passion. We predict:

Hypothesis 3a. Personal initiative training increases entrepreneurial passion. The increase of entrepreneurial passion through personal initiative training is stronger for female than male entrepreneurs.

The increased perceived returns of entrepreneurial action that result from entrepreneurial passion should subsequently lead to entrepreneurial action that manifests itself in increased business success. Empirical evidence supports this claim. Scholars refer to passion as a prerequisite for entrepreneurial action and success (Cardon, Gregoire, Stevens, & Patel, 2013).

Studies show that entrepreneurial passion is an important driver of creativity and opportunity identification, and that entrepreneurial passion helps entrepreneurs to raise funds more easily and to better motivate their employees (Baron, 2008; Cardon, 2008; Cardon et al., 2009; Cardon et al., 2013; Mitteness, Sudek, & Cardon, 2012). Similarly, there is empirically evidence that directly links entrepreneurial passion and venture growth (Baum et al., 2001; Baum & Locke, 2004). Based on our argumentation, we hypothesize:

Hypothesis 3b. Personal initiative training leads to strengthened business success through an increase in entrepreneurial passion. The indirect effect of personal initiative training on business success through an increase in entrepreneurial passion is stronger for female than male entrepreneurs.

5.4 Method

5.4.1 Design

We tested our hypotheses with a randomized controlled field experiment in Lomé, Togo. The study took place in the context of a project promoting the business success of micro-enterprises in developing countries. Study participants were randomly assigned to a personal initiative training group, a business training group, or a non-treatment control group. The design allowed us to compare the personal initiative training condition with the conditions of not receiving any training and receiving traditional business training. Both trainings groups were trained by local trainers who in turn have been trained and selected by training experts for the two training approaches. A pilot training shortly before the training was conducted to adapt existing training materials to the needs of the local entrepreneurs and ensure that trainers were familiar with the training contents and teaching methods before the training started. The trainings

itself took place in April 2014. Both trainings were offered in 12 sessions of 3 hours each over the course of one month. The training language was French with passages in one of the most prevalent local languages whenever necessary. In the four following months, participants were visited by one of their trainers on a monthly basis. In four three-hour sessions, the trainers helped participants to apply and intensify the training contents with the help of coaching sessions that matched the respective training rationales.

The business training is an internationally accredited business training program (“Business Edge”) developed by the International Finance Corporation (IFC). For every training project, the contents of the training are tailored to the specific target group. In order to choose the appropriate training contents for our study sample, certified master trainers of the training program identified entrepreneurs’ training needs with the help of a subsample of 85 entrepreneurs. The identified required training contents in this project included four core topics: accounting and financial management (e.g., using simple accounting tools), commercial management and marketing (e.g., identifying the customer base), human resource management (e.g., successful recruitment of employees), and formalization and fiscal responsibilities (e.g., basic knowledge on the payment of taxes and formalization procedures). The personal initiative training is a training developed in the context of Ugandan entrepreneurs (Glaub et al., 2014), which teaches self-starting, future-oriented, and persistent behavior throughout the entrepreneurial action sequence (Mensmann & Frese, 2017). Entrepreneurs in the control group did not receive any training. They were offered small gifts and the chance to take part in a lottery after the last measurement wave to make up for their devoted time.

The measurement of our study variables took place with the help of structured interviews before the training (T1, October 2013) and two years after the training and coaching (T2,

September 2016). We trained the interviewers and conducted pilot interviews prior to each of the two measurement waves. Interviews were conducted in French or one of the prevalent local languages, depending on the level of French of the interviewed entrepreneur.

5.4.2 Sample

Our recruitment process started with the announcement of the project through various channels, for example radio and television advertisements, banners, flyers, and information events in collaboration with different micro finance institutions. 3396 entrepreneurs applied for our training; 3220 were eligible for the training. Entrepreneurs had to be in the informal sector, from an industry other than agriculture, and have 50 or fewer employees in order to qualify for the training. In addition, the business had to be in existence for at least one year. We used a stratified sampling procedure on the basis of sector of activity, gender, level of business activity prior to the training, and profits prior to the training to randomly assign the entrepreneurs to the business training, personal initiative training, and the control group. 500 entrepreneurs were assigned to each of the three groups. The take up was about 84% in both training groups, a high take up rate for studies in this context. We excluded entrepreneurs who accidentally participated in the wrong training, who participated in a training although they were assigned to the non-treatment control group, and who did not go to any training although they were selected for one of the trainings from our study sample (N = 175). To test whether these exclusions affected the sample characteristics, we conducted all analyses with and without the excluded entrepreneurs. We found the same pattern of results for both samples. From the remaining sample, we excluded 129 entrepreneurs with missing values on our study variables from our sample.

The final study sample consisted of 1196 entrepreneurs. From these entrepreneurs, 385 entrepreneurs were in the personal initiative training group, 386 entrepreneurs were in the

business training group, and 425 entrepreneurs were in the control group. 50.6% of the entrepreneurs were female. 45.2 % of the businesses operated in commerce, 26.3% in service, and 28.5% in manufacturing. The mean age of the sample was 41 years with an age range from 18 to 76 years. To test for equality of the three groups before the training, we conducted Multivariate Analyses of Variance (MANOVA) testing for group differences of the study variables measured at T1. There were no significant differences between the groups, indicating equality of groups before the training.

5.4.3 Measures

We translated and back translated all study measures from English to French and vice versa. In addition, we translated and back translated the measures from French into the two most prevalent local languages in order to guarantee comprehensibility for study participants with low levels of French.

Entrepreneurial self-efficacy. To measure entrepreneurial self-efficacy at both measurement waves, we used the 9-items scale developed by Krauss (2003), which has shown high predictive validity in the African context (Frese, Krauss et al., 2007; Gielnik, Spitzmüller et al., 2015). A sample item is “How confident are you that you can do the marketing of a business well?” We used the mean of the nine items as entrepreneurial self-efficacy score. Internal consistency of the scale was good (T1: $\alpha = .86$; T2: $\alpha = .82$). We used a 5-point Likert scale as response scale; the scale ranged from 1 (strongly disagree) to 5 (strongly agree).

Error competence. We measured error competence at both measurement waves with the help of four items developed by Rybowskiak et al. (1999). Error competence constitutes one subscale of the error orientation questionnaire (EOQ). We used the error competence subscale as this subscale reflects the perceived competence to deal with errors. The mean of the four items

constitutes the error competence score. A sample item of the scale is “When I have made a mistake, I know immediately how to correct it.” The scale showed good internal consistency (T1: $\alpha = .70$; T2: $\alpha = .69$). Answers were rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

Entrepreneurial passion. Entrepreneurial passion was measured at both measurement waves with the help of nine items developed by Cardon et al. (2013). We only included the items of the subscales passion for inventing and passion for developing and excluded all items on passion for founding, as our study participants had already founded their business. We also excluded one item on producing product prototypes (“I feel energized when I am developing product prototypes”), as this item was not applicable for many of the businesses in our study sample. The mean of the remaining nine items constitutes the entrepreneurial passion score. A sample item of the scale is “It is exciting to figure out new ways to solve unmet market needs that can be commercialized.” Internal consistency was good (T1: $\alpha = .81$; T2: $\alpha = .81$). The response scale was a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Business success. To measure business success, we asked participants to report their profits in the previous full month in Francs CFA (XOF) after paying all business expenses and before paying themselves a salary. To control for outliers, we winsorized reported profits at the 99th and 1st percentiles. Profits were coded to 0 for participants who no longer had a business. For a better interpretation of the training impacts on business success, we also display the profits and all effects on profits in U.S. dollars (USD) in brackets.

Training group. Training group participation was coded with the help of two dummy variables. One variable indicated whether the participant was part of the business training group (0 = not in the business training group; 1 = participant of the business training). A second variable

indicated whether the participant was part of the personal initiative training group (0 = not in the personal initiative training; 1= participant of the personal initiative training). The reference category for training group was being in the non-treatment control group.

Gender. Gender was coded with the help of a dummy variable. Male participants were coded as 0, while female participants were coded as 1.

Control variables. To control for pre-training levels of error competence, entrepreneurial passion, and business success, we included the variables from T1 in our models. We also controlled for being in the business training group as this allows comparing the personal initiative training condition with the non-treatment control group condition. It also allowed us to see whether a different, knowledge-based training form also impacts business success through error competence and entrepreneurial passion. In addition, we controlled for age (in years) of the participants as research provides evidence that entrepreneurial motivation changes with age (Ainsworth, 2015). Some scholars argue that gender-related differences in business performance disappear when controlling for the sector the business operates in (de Bruin, Brush, & Welter, 2007; Du Rietz & Henrekson, 2000; Rosa, Carter, & Hamilton, 1996). Therefore, we introduced two dummy variables for sector into our models. The dummy variables reflected being in commerce (0 = not in commerce, 1= in commerce) and being in service (0 = not in service, 1 = in service). The reference category for sector was manufacturing.

5.4.4 Method of Analysis

We used linear regression analyses and conditional process analyses to test our model. For Hypotheses 1a, 2a, and 3a, we conducted linear regression analyses. To test for moderation, we added the respective interaction term to the analysis. In addition, we used a graphical

illustration following Aiken and West (1991) and simple slope analysis (Jaccard, Wan, & Turrisi, 1990) to confirm our results.

In Hypotheses 1b, 2b, and 3b, we hypothesize moderated mediations (Preacher, Rucker, & Hayes, 2007). To test the hypotheses, we used the PROCESS macro in SPSS provided by Preacher et al. (2007), which helps to specify moderated mediation models (Model 7). We conducted bootstrapping based on 95% bias corrected bootstrap confidence intervals and 5000 bootstrap resamples to test our assumptions on the effect of personal initiative training on business success, mediated through error competence and entrepreneurial passion and moderated by gender. By applying the bootstrapping method, we followed the advice by Preacher et al. (2007) who recommend using bootstrapping whenever possible as it does not make assumptions about the shape of the sampling distribution.

5.5 Results

Table 5.1 presents the descriptive statistics and inter-correlations of our study variables. Entrepreneurial self-efficacy, error competence, and entrepreneurial passion at the first measurement wave (T1) show significant negative correlations with gender (entrepreneurial self-efficacy: $r = -.12$, $p < .01$; error competence: $r = -.09$, $p < .01$; entrepreneurial passion: $r = -.11$, $p < .01$), indicating lower levels of entrepreneurial self-efficacy, error competence, and entrepreneurial passion for female entrepreneurs before the training. In an additional analysis, we conducted independent samples t-tests to determine whether the pre-training levels of error competence and entrepreneurial passion significantly differ between female entrepreneurs and male entrepreneurs. The values of entrepreneurial self-efficacy significantly differed between female entrepreneurs ($M=4.11$, $SD=0.62$) and male entrepreneurs ($M=4.25$, $SD=0.61$) prior to

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training ($t=3.81$, $p<.01$). We also found a significant difference in error competence between female entrepreneurs ($M=4.34$, $SD=0.47$) and male entrepreneurs ($M=4.42$, $SD=0.45$) prior to training ($t=3.24$, $p<.01$). The results also reveal a significant difference in entrepreneurial passion between female entrepreneurs ($M=4.41$, $SD=0.41$) and male entrepreneurs ($M=4.51$, $SD=0.38$) prior to training ($t=4.37$, $p<.01$).

Table 5.1

Means, Standard Deviations, and Correlations of Study Variables

Variables	Time	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	T1 ^a	41.21	9.56													
2. Commerce ^b	T1	0.45	0.50	.12**												
3. Service ^c	T1	0.26	0.44	-.08**	-.54**											
4. Business success ^d	T1	94903.53 (161.99)	155100.16 (264.74)	-.03	.12**	-.01										
5. Entrepreneurial self- efficacy	T1	4.18	0.62	-.05	-.07*	.01	.15**									
6. Error competence	T1	4.38	0.46	-.03	-.07*	.02	.07*	.43**								
7. Entrepreneurial passion	T1	4.46	0.40	.00	-.09**	-.01	.09**	.50**	.66**							
8. Business training ^e	T1	0.32	0.47	.01	-.01	.02	.02	-.01	-.01	-.04						
9. Gender ^f	T1	0.51	0.50	.16**	.48**	-.29**	-.14**	-.12**	-.09**	-.11**	-.00					
10. PI training ^g	T1	0.32	0.47	-.02	-.00	.00	-.01	.02	-.02	.03	-.48**	-.01				
11. Entrepreneurial self- efficacy	T2	4.62	0.45	.01	.01	-.03	.06*	.10**	.11**	.11**	-.02	-.01	.06*			
12. Error competence	T2	4.54	0.48	.06*	.03	-.03	.06	.03	.06*	.05	-.04	.04	.07*	.36**		
13. Entrepreneurial passion	T2	4.67	0.37	.03	.07*	-.06*	.10**	.08**	.06*	.08**	-.05	.01	.08**	.41**	.45**	
14. Business success	T2	117357.57 (200.32)	245684.93 (421.83)	-.04	.08**	-.02	.29**	.12**	.05	.11**	-.01	-.12**	.10**	.09**	.11**	.11**

Note. N = 1196; ^aT1= before the training, T2=2 years after the training; ^b0 = other sector, 1 = commerce; ^c0 = other sector, 1 = service; reference category for b & c: manufacturing; ^dUSD in brackets; ^e0= other group, 1=business training; ^f0 = male, 1 = female; ^gPI = personal initiative; 0= other group, 1=personal initiative training; reference category for f & g: non-treatment control group; * p < .05; ** p < .01.

5.5.1 Test of Hypotheses

In Hypothesis 1a, we hypothesize that personal initiative training increases entrepreneurial self-efficacy and that this increase is stronger for female than male entrepreneurs. To test Hypothesis 1a, we conducted linear regression analyses (see Table 5.2). In a first step, we included the control variables (age, sector dummies, business success at T1, entrepreneurial self-efficacy at T1, and the business training dummy) into the model (see Model 1.0 in Table 5.2). We did not find any significant effect of the business training on entrepreneurial self-efficacy ($b = -0.02$, $p = ns$), indicating that the business training did not affect entrepreneurs' entrepreneurial self-efficacy. The control variables explained 1 % of the variance in error competence. In a second step, we entered the main effects of personal initiative training and gender into the model (see Model 1.1 in Table 5.2). Contrary to our hypothesis, personal initiative training did not have any effects on entrepreneurial self-efficacy ($b = 0.05$, $p = ns$). In a third step, we added the interaction term of personal initiative training and the gender variable into the equation (see Model 1.2 in Table 5.2) to examine the moderating effect of gender. Again, we could not find a significant effect ($b = 0.10$, $p = ns$). Due to the nonsignificant findings regarding the effect of personal initiative on entrepreneurial self-efficacy and the moderating effect of gender, we did not proceed with testing Hypothesis 1b.

Table 5.2

Regression Results Testing the Effect of Personal Initiative Training on Entrepreneurial Self-Efficacy, Error Competence, and Entrepreneurial Passion and the Moderating Effect of Gender

Variables	Entrepreneurial Self-Efficacy						Error Competence						Entrepreneurial Passion							
	Model 1.0		Model 1.1		Model 1.2		Model 2.0		Model 2.1		Model 2.2		Model 3.0		Model 3.1		Model 3.2			
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE		
Age	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00*	(0.00)	0.00*	(0.00)	0.00*	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)
Commerce ^a	-0.00	(0.03)	0.00	(0.03)	0.00	(0.03)	-0.02	(0.03)	-0.03	(0.04)	-0.03	(0.04)	0.03	(0.03)	0.03	(0.03)	0.03	(0.03)	0.03	(0.03)
Service ^b	-0.03	(0.04)	-0.03	(0.04)	-0.03	(0.04)	-0.03	(0.04)	-0.03	(0.04)	-0.03	(0.04)	-0.03	(0.03)	-0.03	(0.03)	-0.03	(0.03)	-0.03	(0.03)
Business success T1	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00*	(0.00)	0.00*	(0.00)	0.00**	(0.00)	0.00**	(0.00)	0.00**	(0.00)	0.00**	(0.00)
Ent. self-efficacy T1			0.07**	(0.02)	0.07**	(0.02)														
Error competence T1							0.06*	(0.03)	0.06*	(0.03)	0.07*	(0.03)								
Ent. passion T1													0.08**	(0.03)	0.07**	(0.03)	0.08**	(0.03)	0.08**	(0.03)
Business training ^c	-0.02	(0.03)	0.00	(0.03)	0.00	(0.03)	-0.04	(0.03)	0.00	(0.03)	0.00	(0.03)	-0.03	(0.02)	-0.01	(0.03)	-0.01	(0.03)	-0.01	(0.03)
Gender ^d			-0.01	(0.03)	-0.04	(0.04)			0.03	(0.03)	-0.03	(0.04)			-0.01	(0.03)	-0.05	(0.03)	-0.05	(0.03)
PI training ^e			0.05	(0.03)	0.00	(0.04)			0.08*	(0.03)	-0.00	(0.05)			0.06*	(0.03)	0.01	(0.04)	0.01	(0.04)
PI training x Gender					0.10	(0.06)					0.17**	(0.06)							0.10*	(0.05)
Model																				
R ²		.01		.02		.02		.01		.02		.03		.02		.03		.03		.03
Δ R ² compared to Model 0				.01		.01				.01		.02				.01		.01		.01
F		2.72*		2.42*		2.53**		2.50*		2.75**		3.43**		4.34**		3.96**		4.11**		4.11**

Note. N = 1196; ^a 0 = other sector, 1 = commerce; ^b 0 = other sector, 1 = service; reference category for a & b: manufacturing; ^c 0 = other group, 1 = business training; ^d 0 = male, 1 = female; ^e PI = personal initiative, 0 = other group, 1 = personal initiative training; reference category for c & e: non-treatment control group; * p < .05; ** p < .01.

Hypothesis 2a states that personal initiative training increases error competence and that this increase is stronger for female than male entrepreneurs. To test Hypothesis 2a, we followed the same steps as described for Hypothesis 1a. First, we included the control variables (age, sector dummies, business success at T1, error competence at T1, and the business training dummy, see Model 2.0 in Table 5.2). Again, we did not find any significant effect of the business training on error competence ($b = -0.04$, $p = ns$). The control variables explained 1 % of the variance in error competence. Second, we added the main effects of personal initiative training and gender to the model (see Model 2.1 in Table 5.2). As hypothesized, personal initiative training had a significant positive effect on error competence ($b = 0.08$, $p < .05$). The main effects of personal initiative training and gender explained another 1 % of the variance in error competence. To examine the moderating effect of gender hypothesized in Hypotheses 2a, we entered the interaction term of personal initiative training and the gender variable into the equation (see Model 2.2 in Table 5.2). The interaction term had a significant positive effect on error competence ($b = 0.17$, $p < .01$). Following Aiken and West (1991), Figure 5.2 visualizes the moderation effect. Simple slope analyses (Jaccard et al., 1990) show that the slope for female entrepreneurs is significant ($t = 5.38$, $p < .01$), whereas the slope for male entrepreneurs is not ($t = -0.09$, $p = ns$). As a consequence, we could confirm Hypothesis 2a.

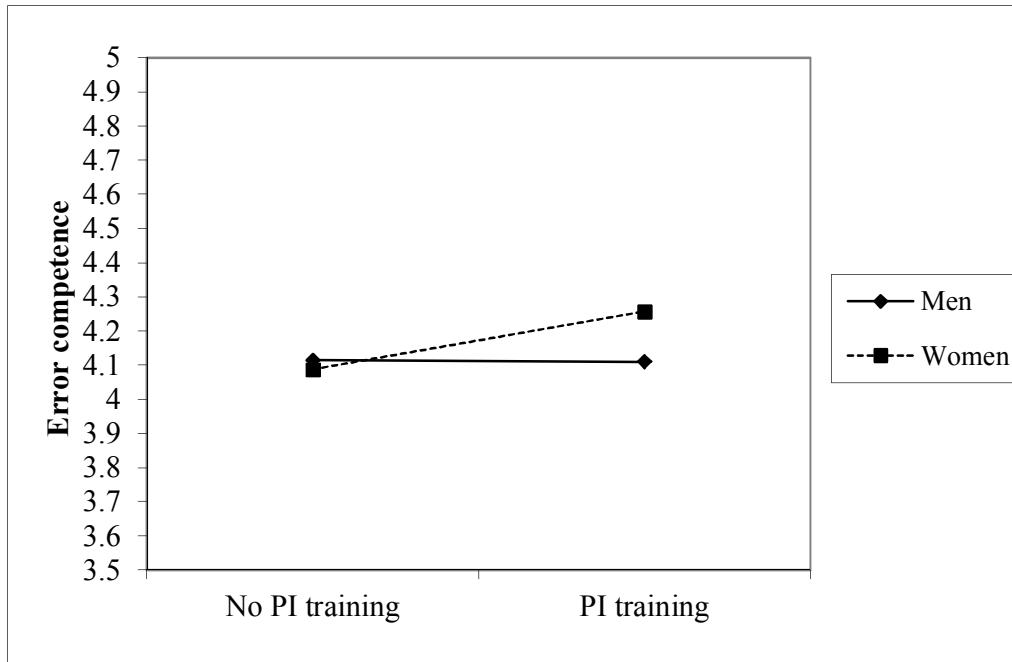
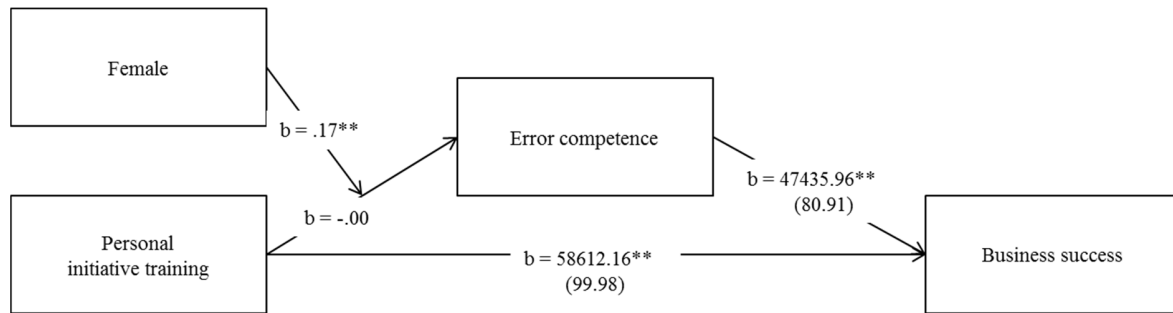


Figure 5.2. The Effect of Personal Initiative Training on Error Competence, Moderated by Gender

Hypothesis 2b states that personal initiative training leads to strengthened business success through an increase in error competence and that this indirect effect is stronger for female than male entrepreneurs. To test the hypothesized moderated mediation, we used PROCESS Model 7 in SPSS, entering error competence as a mediator and gender as a first stage moderator into our model (Preacher et al., 2007). The coefficients are shown in Figure 5.3. Our analysis reveals a significant indirect effect of personal initiative on business success via error competence in the case of female entrepreneurs (conditional indirect effect: 8083.50 XOF [13.80 USD]; lower level: 3820.58 XOF [6.52 USD]; upper level: 14553.24 XOF [25.84 USD]). In contrast, for male entrepreneurs, there is no significant indirect effect of personal initiative training on business success via error competence (conditional indirect effect: -187.05 XOF [-0.32 USD]; lower level: -4567.71 XOF [-7.79 USD]; upper level: 4287.66 XOF [7.31 USD]). A test of equality of the conditional indirect effects revealed that the conditional indirect effects for

female and male entrepreneurs are significantly different from each other (index: 8270.55 XOF [14.10 USD]; lower level: 3101.46 XOF [5.29 USD]; upper level: 16345.81 XOF [27.81 USD]). Therefore, we could confirm Hypothesis 2b. An additional finding is that there was no impact of the business training on entrepreneurial success ($b = 21840.49$ XOF [37.27 USD], $p = ns$).



Note. N=1196; the model includes the following control variables: Age, sector dummies, business success at T1, error competence at T1, business training; USD in brackets; * $p < .05$; ** $p < .01$.

Figure 5.3. Moderated Mediation Results of the Effect of Personal Initiative Training on Business Success Through Error Competence, Moderated by Gender

In Hypothesis 3a, we claim that personal initiative training increases entrepreneurial passion and that this increase is stronger for female than male entrepreneurs. We followed the same steps as for Hypothesis 1a and Hypothesis 2a to test this assumption (see Table 5.2). The control variables (age, sector dummies, business success at T1, entrepreneurial passion at T1, and the business training dummy) explained 2 % of the variance in entrepreneurial passion at T2 (see Model 3.0 in Table 5.2). We did not find a significant effect of business training on entrepreneurial passion ($b = -0.03$, $p = ns$). In contrast, personal initiative training had a significant positive effect on entrepreneurial passion ($b = 0.06$, $p < .05$; see Model 3.1 in Table 5.2). The inclusion of the personal initiative training variable and the gender variable explained another 1% of the variance in entrepreneurial passion. To test for the moderating effect of gender, we included the interaction term between the personal initiative training variable and the gender variable in the model. Again, we found a significant positive effect of the interaction term

on entrepreneurial passion ($b = 0.10$, $p < .05$, see Model 3.2 in Table 5.2). Following Aiken and West (1991), Figure 5.4 depicts the interaction. Simple slope analyses (Jaccard et al., 1990) reveal a significant slope for female entrepreneurs ($t = 3.51$, $p < .01$), whereas the slope for male entrepreneurs is not significant ($t = 0.22$, $p = ns.$). As a consequence we could confirm Hypothesis 3a.

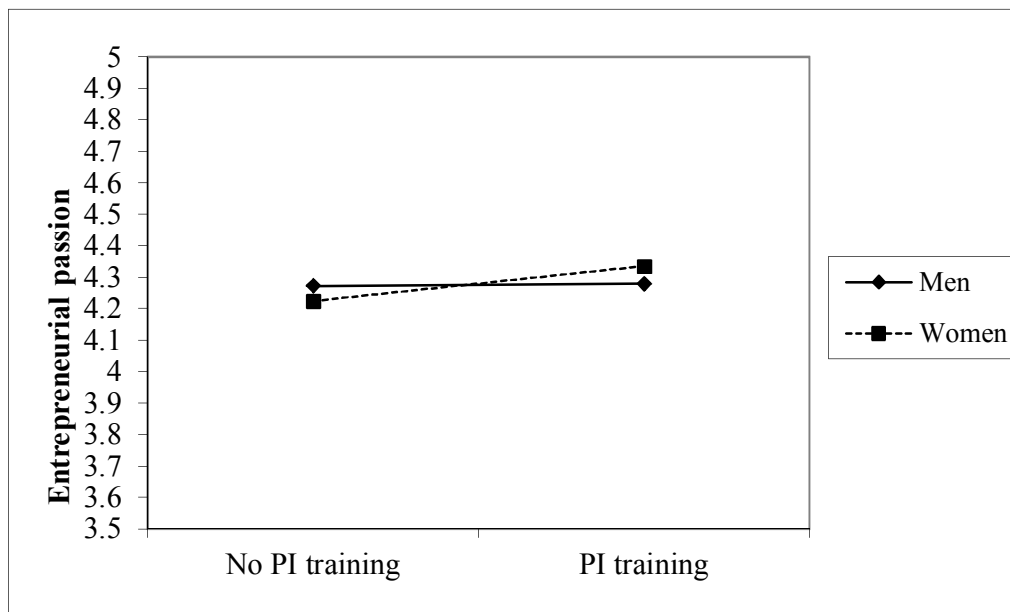
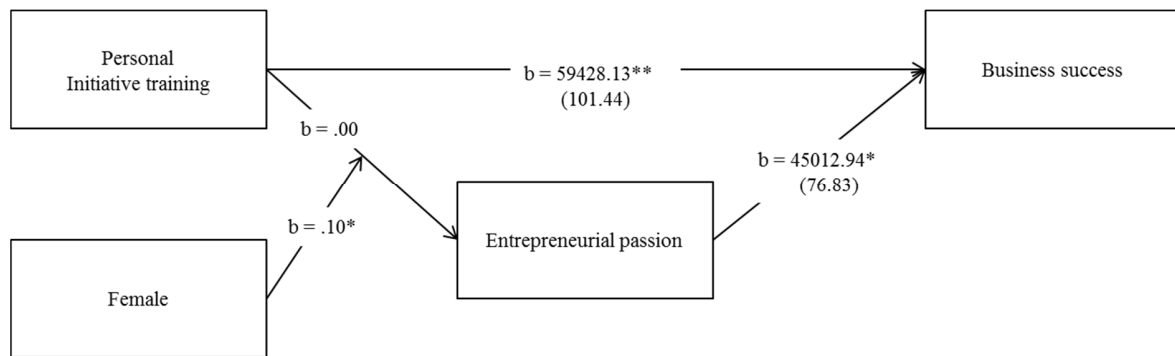


Figure 5.4. The Effect of Personal Initiative Training on Entrepreneurial Passion, Moderated by Gender

In Hypothesis 3b, we hypothesize that personal initiative training leads to strengthened business success through an augmented entrepreneurial passion and that this indirect effect is stronger for female than male entrepreneurs. We followed the same procedure as for Hypothesis 2b to test the hypothesized moderated mediation. Figure 5.5 depicts the coefficients of the model. As hypothesized, we found an indirect effect of personal initiative training on business success through entrepreneurial passion for female entrepreneurs (conditional indirect effect: 5005.68 XOF [8.53 USD]; lower level: 1389.51 XOF [2.37 USD]; upper level: 10714.37 XOF

[18.26 USD]) but not for male entrepreneurs (conditional indirect effect: 304.90 XOF [0.52 USD]; lower level: -2766.51 XOF [4.72 USD]; upper level: 3613.44 XOF [6.16 USD]). We tested the equality of the indirect effects for female entrepreneurs and male entrepreneurs. The indirect effects were significantly different from each other (index: 4700.78 XOF [8.01 USD]; lower level: 960.05 XOF [163.63 USD]; upper level: 11282.43 XOF [19.23 USD]). Thus, we could confirm Hypothesis 3b.



Note. N=1196; the model includes the following control variables: Age, sector dummies, business success at T1, entrepreneurial passion at T1, business training; USD in brackets; * $p < .05$; ** $p < .01$.

Figure 5.5. Moderated Mediation Results of the Effect of Personal Initiative Training on Business Success Through Entrepreneurial Passion, Moderated by Gender

5.6 Discussion

With this study, we aimed to contribute a solution to the two riddles of why female entrepreneurs demonstrate lower business success compared to male entrepreneurs and how female entrepreneurs can be supported to close this gender gap. Based on social role theory (Eagly, 1987; Eagly et al., 2000; Wood & Eagly, 2002) and McMullen and Shepherd's (2006) process model of entrepreneurial action, we proposed that personal initiative training (Glaub et al., 2014) helps female entrepreneurs to overcome their perception of high risks and low returns

involved in entrepreneurial action, which result from their identification with social gender roles as caretakers instead of agentic entrepreneurs.

Specifically, we hypothesized that personal initiative training increases female entrepreneurs' entrepreneurial self-efficacy and error competence, thereby reducing female entrepreneurs' perceived risks involved in entrepreneurial action and fostering female entrepreneurs' business success. In addition, we purported that personal initiative training increases female entrepreneurs' entrepreneurial passion, thereby augmenting their perceived returns resulting from entrepreneurial action which should again lead to strengthened business success. In line with our hypotheses, we could show that personal initiative training increased error competence and entrepreneurial passion and that this increase was particularly strong for female entrepreneurs. Furthermore, the increase in error competence and entrepreneurial passion led to strengthened business success of female entrepreneurs. By simultaneously testing the impact of traditional, knowledge-based business training on female business success, we could show that the success of personal initiative training did not lie in women being exposed to training per se, but in the specific underlying methodology of creating an action-oriented mindset through action regulation training.

Contrary to our expectations, we did not find the hypothesized effect of personal initiative training on female entrepreneurs' entrepreneurial self-efficacy, although the tendency of the effect of personal initiative training on entrepreneurial self-efficacy was positive as expected. This might be explained by the fact that the female entrepreneurs in our sample have already started and managed a business for at least one year, and this might have compensated for their internalized social gender roles by providing them with enough confidence in their business management skills. This is supported by the finding that the female entrepreneurs'

means of entrepreneurial self-efficacy, error competence, and entrepreneurial passion were significantly lower than male entrepreneurs' means but nevertheless relatively high. Research suggests that the differences between male and female entrepreneurial behavior become smaller as soon as individuals have decided to pursue the entrepreneurial career path (Malach-Pines & Schwartz, 2008). Personal initiative training for women who intend to start a business or for women in the startup phase might have even stronger effects on women's perceptions of risks and returns of entrepreneurship.

5.6.1 Theoretical and Practical Implications

Our study has two important theoretical implications. First, we contribute to the understanding of the gender gap in entrepreneurial success by providing a theoretical framework that links the theory on the entrepreneurial process (McMullen & Shepherd, 2006) with social role theory (Eagly, 1987; Eagly et al., 2000; Wood & Eagly, 2002). We thereby identify female entrepreneurs' perception of risk and return of entrepreneurial action as underlying inhibiting factors of entrepreneurial success. In view of the economic benefit resulting from female entrepreneurship, a number of studies have looked for answers to the question of how female entrepreneurs can be supported (e.g., Karlan & Valdivia, 2011; Shelton, 2006; Welter, 2004). However, theoretical explanations of the relevant factors that limit female entrepreneurs' business success are scarce. With our study, we answer the call for theoretical models which describe the factors influencing female entrepreneurial behavior (Minniti & Naudé, 2010). In our model, we also take into account female entrepreneurs' social context. Scholars have argued that the consideration of the social context is critical to understand female entrepreneurial behavior (Brush et al., 2009). We link this social context to the perception of uncertainty to explain the gender gap in entrepreneurial success. The question whether women's aversion to uncertainty,

which affects female entrepreneurial success, is rather innate or acquired through socialization has not yet been answered by research (Wagner, 2004). With this study, we propose that female entrepreneurs' uncertainty avoidance could be a result of lower perceived entrepreneurial competence and entrepreneurial passion caused by their social gender roles. This suggests that women's aversion to uncertainty in general and female entrepreneurs' risk aversion in particular is not stable, but changeable by helping them to overcome their social gender roles. Our model can be a starting point for a comprehensive theoretical framework explaining the underlying reasons and mechanisms for the gender gap in entrepreneurship.

Second, based on action regulation theory (Frese & Zapf, 1994; Hacker, 1998) and the theory of personal initiative (Frese & Fay, 2001), we offer the promotion of proactive behavior as a possible solution to the problem of female entrepreneurs' lower business success. Former research described the beneficial role of perceived skills and capabilities for female entrepreneurial action (Minniti & Nardone, 2007). Our study complements this research by showing that female entrepreneurs gain confidence in their entrepreneurial skills and capabilities through proactive behavior, thereby reassessing their risk-return relationship of entrepreneurial action and bearing uncertainty. The findings also help to understand why providing expertise through knowledge only has limited impact on female entrepreneurial business success. We suggest that proactive behavior is the key for female entrepreneurs to overcome uncertainty, as it provides them with the experiences they need to build competences which lower their perceived risks and to build passion which increase their perceived returns of entrepreneurial action.

Our theoretical implications will be of great use for practitioners. While entrepreneurial training is especially important in the context of developing countries, attempts to train entrepreneurs in developing countries has had little to no success for female entrepreneurs

(McKenzie & Woodruff, 2014). Our study suggests that there is a practical solution to this problem: Success can be obtained if trainings are adapted to focus on inducing proactive behavior. In order to support female entrepreneurs, practitioners should therefore change training curricula and make business trainings more action-oriented. Female entrepreneurs should not be confronted with abstract managerial knowledge. Instead, training exercises should directly aim at changes in female entrepreneurs' businesses and be as closely tied to entrepreneurial action as possible. Women should actively work on their own businesses during training. In addition, action-oriented coaching sessions after the training period can help to further assist female entrepreneurs to be proactive and internalize the agentic entrepreneurial role. Our findings will not only enable practitioners to develop cost-effective trainings, but also lead to an improvement of the economic well-being of female entrepreneurs and their communities in developing countries (Minniti, 2010).

5.6.2 Limitations and Directions for Future Research

This study has a number of strengths. From a theoretical perspective, this study is highly relevant as it contributes to the understanding of the gender gap in entrepreneurial performance by offering a novel perspective that integrates the hitherto unrelated perspectives of the process model of entrepreneurial action (McMullen & Shepherd, 2006) and social role theory (Eagly, 1987; Eagly et al., 2000; Wood & Eagly, 2002). The study also shows considerable methodological strengths. We tested our hypotheses with the help of an adequately powered randomized controlled field experiment and used a randomized process—the “gold standard” (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996, p. 72) of participant assignment, which assures good internal validity (Campbell, 1957)—to assign participants to the experimental groups. Moreover, the experimental design allows making assumptions on the causal directions

of our hypothesized effects of personal initiative training. The rigorous quality control of the trainings and the measurement instruments provide confidence in our results. By comparing the personal initiative training group to a non-treatment control group and a traditional business training group, we not only showed that personal initiative training has the hypothesized effects on female entrepreneurs and their businesses, but also that this impact cannot be induced by a business training focusing on enhancing business knowledge.

Nevertheless, the study results have to be interpreted in light of some limitations that should be addressed by future research. First, the simultaneous measurement of the mediators and the outcome in this study constitutes a potential source of common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). We also acknowledge that business success resulting from personal initiative training could exert influence on female entrepreneurs' entrepreneurial self-efficacy, error competence, and entrepreneurial passion. Studies have for instance provided evidence of the impact of success on entrepreneurial passion (Gielnik, Spitzmüller et al., 2015). However, based on the theoretical arguments outlined in this paper, we are confident that increased error competence and entrepreneurial passion are a cause of business success subsequent to training. Nevertheless, future research should investigate reciprocal relationships (Bandura, 1978) between entrepreneurial self-efficacy, error competence, entrepreneurial passion, and business success.

The second limitation of our study is the low degree of explained variance in the investigated mediators. Our statistical models only explain a limited percentage of variance in entrepreneurial self-efficacy, error competence, and entrepreneurial passion. However, these numbers have to be interpreted in light of three facts. First, there was a relatively long time lapse of two years between the training intervention and the second measurement wave, which

provides a conservative test of the investigated relationships, as learning outcomes of trainings decrease with time (Blume, Ford, Baldwin, & Huang, 2010). Second, the number of contact hours amounts to 36 hours of training and 12 hours of coaching, which makes the training a relatively short intervention. Third, entrepreneurial action is a complex construct that is influenced by numerous contextual and individual factors such as the institutional context (Welter & Smallbone, 2011), entrepreneurial emotions (Cardon, Foo, Shepherd, & Wiklund, 2012), and many others. Thus, we consider the fact that we could find training impacts after 2 years as evidence for the relevance of personal initiative training for female entrepreneurship.

Our study offers at least two additional points of departure for future research. First, future studies should look into further possible ways in which personal initiative training affects female business success. One potential further mechanism could be an increase in networking behavior. Female entrepreneurs might become more open to network with potential business partners, as personal initiative training teaches them to be self-starting and to actively search for new information sources. This could in turn be beneficial for the success of their business. Research has shown that female entrepreneurs' networking activity plays a role for their business success, particularly because it facilitates access to financial capital (Carter, Brush, Greene, Gatewood, & Hart, 2003) and that female micro-entrepreneurs are disadvantaged regarding the access to supporting networks, which negatively affects their business performance (Kim & Sherraden, 2014). Future research would benefit from insights into this and potential additional mechanisms that could help women to succeed after personal initiative training.

Second, future research should investigate whether our findings can be generalized to female entrepreneurs in other cultural contexts. This study was conducted with micro-entrepreneurs in a developing country. In view of the importance for entrepreneurship in

developing countries (Bruton et al., 2013; Goedhuys & Sleuwaegen, 2010) and the need to close the gender gap in entrepreneurial activity in general (Fairlie & Robb, 2009; Jennings & Brush, 2013), this study's context is particularly suitable. However, in light of the influence of culture on sex role socialization (Hofstede, 1984) and the effect of national culture on entrepreneurial behavior (Hayton, George, & Zahra, 2002), it would be interesting to investigate whether personal initiative training can also support female entrepreneurs in other cultural contexts.

5.6.3 Conclusion

This study makes an important contribution to the debate on the gender gap in entrepreneurial action and success. It also contributes to the literature on how female entrepreneurs can be best supported, showing that personal initiative training increases female entrepreneurs' error competence and entrepreneurial passion, thereby leading them to reshape internalized social gender roles and to succeed within their businesses. The findings underline the value of action-oriented interventions such as personal initiative for the success of female entrepreneurs.

5.7 References

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CHAPTER 5. PERSONAL INITIATIVE TRAINING AND FEMALE BUSINESS SUCCESS

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6. General Discussion

In this dissertation, I sought to contribute to the literature on proactive behavior and provide insights into the support of entrepreneurship in developing countries. More specifically, I examined why, through which mechanisms, and under which conditions personal initiative training facilitates long-term entrepreneurial success in developing countries. Based on the theory of personal initiative (Frese & Fay, 2001), action regulation theory (Frese, 2009; Frese & Zapf, 1994; Hacker, 1998), and previous findings on the possibility to increase entrepreneurial personal initiative with the help of training (Glaub et al., 2014; Solomon et al., 2013), I developed four studies to advance the knowledge on personal initiative training in the context of entrepreneurship in developing countries.

Chapter 2 of this dissertation described the underlying training rationale of personal initiative training and its action-based training methodology and provided an overview on different proactive behavior trainings in various work contexts. The chapter closed with avenues for future research on proactive behavior trainings.

Chapter 3 focused on the factors that contribute to personal initiative maintenance after training. The chapter displayed the role of training participants' need for cognition as a buffering factor for the decline in post-training personal initiative.

Chapter 4 addressed the consequences of personal initiative training for entrepreneurs in developing countries. Drawing on the results of different randomized controlled field experiments, the chapter explained how personal initiative training and a related action-regulation-theory-based training lead to entrepreneurial success through the support of entrepreneurial action. The chapter concluded that personal initiative training constitutes a useful bottom-up approach for poverty reduction in developing countries.

Finally, Chapter 5 concentrated on the important topic of supporting female entrepreneurship in developing countries. The chapter showed that personal initiative training, in contrast to traditional knowledge-centered business trainings, positively affects female entrepreneurs' business success. Specifically, that it fostered error competence and the evocation of entrepreneurial passion, thereby increasing the probability that female entrepreneurs adopt the role of risk-takers rather than focusing on their prescribed social roles as housewives and caretakers.

6.1 General Theoretical Implications

This dissertation contributes to the theory on proactive behavior and adds to the literature on entrepreneurship support in developing countries. Three important theoretical implications result from this work.

First, building on previous research on personal initiative training (Glaub et al., 2014), this dissertation offers more comprehensive insights into how and under which conditions training induces proactive behavior. Chapter 2 describes a possible process of proactive behavior creation. The chapter shows how personal initiative training fosters personal initiative through the process from action principle presentation to verbalization and interiorization of operative mental models, practice of proactive behavior in action training, and subsequent initiation of training transfer (cf. Table 2.2). The understanding of the underlying psychological process is central to the creation of an effective psychological intervention (Walton, 2014). The dissertation also emphasizes the interactions between trainee characteristics and personal initiative training outcomes, thereby answering the call for research on the influence of training-trainee relationships for more effective proactive behavior trainings (Strauss & Parker, 2015). In

particular, Chapter 3 shows the role of training participants' need for cognition (Cacioppo et al., 1996; Cacioppo & Petty, 1982) for the success of personal initiative training. Chapter 5 examines the role of gender in personal initiative training, taking into consideration that women and men possess different internalized social roles (Eagly, 1987; Eagly et al., 2000; Wood & Eagly, 2002), which lead to particular training needs. These findings provide evidence for the importance of considering trainee characteristics to better understand the effects of personal initiative training, and should spark future research on beneficial trainee characteristics for proactive behavior training.

Second, the dissertation contributes to the understanding of training transfer subsequent to proactive behavior training. The most important goal of training is to transfer newly acquired behaviors to the real life context (Grossman & Salas, 2011). This is possible through generalizing training contents to the work setting and supporting the maintenance of acquired behavior over time (Blume et al., 2010). The dissertation sheds lights on how to generalize and maintain proactive behavior during and after training. Chapter 2 and Chapter 4 describe in detail how a training design based on action regulation theory allows the generalization of proactive behavior to the work context. Chapter 3 is an initial attempt to identify factors that contribute to the maintenance of proactive behavior by looking at the role of need for cognition for personal initiative maintenance. The chapter also reveals the necessity to move away from static investigations of proactive behavior training outcomes to a more dynamic observation of their development over time.

Third, the dissertation advances the understanding of entrepreneurial support, with a particular focus on entrepreneurship in developing countries and female entrepreneurs. Chapter 4 explains why the agentic entrepreneur plays a key role for entrepreneurial success. In this

manner, it presents the promotion of entrepreneurial personal initiative as a fruitful way to foster entrepreneurial success in developing countries. Chapter 5 explains why existing entrepreneurship trainings oftentimes fail to increase female entrepreneurs' business success (Berge et al., 2015; Bulte et al., 2016; Karlan & Valdivia, 2011; McKenzie & Woodruff, 2014), and sheds light on error competence and entrepreneurial passion as starting points for the promotion of female entrepreneurial actions. The chapter also investigates how personal initiative training can support female entrepreneurs through increasing error competence and entrepreneurial passion.

6.2 General Practical Implications

This dissertation has two overall practical implications for the design and implementation of proactive behavior training for entrepreneurial success.

First, the dissertation provides concrete suggestions for the design of effective personal initiative trainings and their evaluation. In line with previous research in the context of entrepreneurship trainings (Gielnik, Frese et al., 2015; Glaub et al., 2014), Chapter 4 underlines the need to foster agency for successful personal initiative training for entrepreneurs. Chapter 2 gives detailed step-by-step guidance practitioners can follow to induce personal initiative in entrepreneurs. The chapter also illustrates possible pitfalls like creating entrepreneurial overconfidence (Koellinger, Minniti, & Schade, 2007) and thereby helps practitioners to carefully design an effective training intervention. In order to test the effectiveness of personal initiative training in a valid way, methodologically sound evaluation studies are needed. Therefore, Chapter 2 suggests randomized controlled field experiments (Shadish & Cook, 2009) and measuring proactive behavior with the help of behavioral measures for a thorough

examination of training effects. Chapter 2 suggests and Chapter 3 empirically reveals that researchers and practitioners interested in maximizing personal initiative training outcomes, need to carefully match trainee characteristics and training form. By doing so, the two chapters will foster practitioners' ability to create wise interventions (Walton, 2014), which are particularly effective for personal initiative creation. In line with previous scholars suggesting different supporting interventions to maintain training effects (Lee & Sabatino, 1998; Richman-Hirsch, 2001; Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012), Chapter 3 also suggests using booster sessions to sustain post-training personal initiative.

Second, training providers who aim to support entrepreneurs in developing countries can benefit from the results of this dissertation and, as a consequence, fight against poverty in a more effective way. In view of the importance of entrepreneurship for economic development in developing countries (Bruton et al., 2013; Goedhuys & Sleuwaegen, 2010) and the limited success of existing training programs in the support of micro-entrepreneurs' business success (McKenzie & Woodruff, 2014), training providers need to identify and implement more promising training approaches. Chapter 4 explains why action-regulation-theory-based training is a promising way to foster entrepreneurial success in developing countries. In addition, the direct comparison of a traditional business training and personal initiative training for female entrepreneurial success in Chapter 5 shows that female entrepreneurs benefit more from training that makes them more daring than from training that allows them to deepen their business knowledge. Accordingly, this dissertation contributes to the support of female entrepreneurs in developing countries by providing insights into their training needs and into how these needs can be fulfilled, thereby helping practitioners to adapt existing training curricula.

6.3 General Conclusion

Proactive behavior trainings like personal initiative training constitute a meaningful pathway to entrepreneurial success and an opportunity to reduce poverty in developing countries. This dissertation helps to understand proactive behavior training by investigating its underlying mechanisms, success factors, and long-term impacts on proactive behavior. The findings of this dissertation could therefore help to improve existing proactive behavior trainings and change the way entrepreneurs in developing countries are trained.

6.4 References

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