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Teaching personal initiative beats traditional training in boosting small business in West Africa[1]

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Abstract

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

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A large share of the labor force in most developing countries is engaged in small-scale entrepreneurship (*1*). However, most of these businesses are "too small and utterly undifferentiated from the many others around them" to ever grow beyond subsistence size (*2*, p.218). What distinguishes those individuals who end up growing their businesses from the rest? There has been a long-running debate about whether such successful entrepreneurs are "born or made" (*3*). The "born" view argues that entrepreneurs differ from the rest in their innate personality traits and desire to succeed, whereas the "made" view argues that entrepreneurs can be created through education and experience.

The billions of dollars spent by governments, microfinance organizations, and non-governmental organizations providing business training programs indicate a strong belief by many policymakers that entrepreneurship can be taught. Traditional business training programs such as those offered by the U.S. Small Business Administration, the International Labor Organization's Start and Improve Your Business program, the International Finance Corporation's Business Edge program, and Freedom from Hunger's programs for microfinance clients aim to teach small business owners to use better business practices such as record-keeping, stock control, and simple marketing. There is increasing evidence in economics that better management and improved business practices matter for productivity in both large (*4*) and small (*5*) firms. However, few evaluations of traditional business training programs offered to existing firms have found sustained impacts on business profits, particularly for women (*6-10*). In addition to methodological issues such as a lack of statistical power in many existing randomized controlled trials, two possible explanations for this lack of impact are that traditional training does not result in a large enough change in the business practices they aim to teach; and that they are not teaching the right set of skills (*11*).

One promising approach to improving these outcomes has been to incorporate insights from other fields into the standard accounting and economics-based approach. Examples include using behavioral economics insights to design a "rules of thumb" based training program (*8*), and programs based on insights from marketing science (*12*). What characterizes these programs is that they aim to improve managerial knowledge. In contrast, the psychology literature has long noted predictors of entrepreneurial success that go beyond knowledge and standard economic variables (*13*). However, few attempts have been made to experimentally evaluate the success of teaching such attributes to owners of small-scale businesses in developing countries. In this report, we show how the use of a psychology-based mindset training program that develops key behaviors associated with a proactive entrepreneurial mindset can deliver lasting improvements for small business owners.

Personal initiative is defined as a self-starting, future-oriented, and persistent proactive mindset (*14*, *15*). Such a mindset implies a readiness to act as a result of cognitive, affective, and motivational tuning preparing to solve entrepreneurial challenges. The personal initiative mindset is key to entrepreneurial success, since it involves looking for ways to differentiate oneself from other businesses, to anticipate problems, to better overcome setbacks, and to foster better planning for opportunities and long-term preparation. A pilot experiment (*16*) with a sample of 109 Ugandan business owners suggested the potential for a short training course to instill a mindset of greater personal initiative, leading to business improvements within a year. Using a large sample and more comprehensive training program, we conducted a randomized controlled trial which directly compares personal initiative training to traditional business training, and demonstrates the greater effectiveness of this alternative approach. Our results provide a middle ground between the "born with an entrepreneurial personality" versus "made by learning specific entrepreneurial practices"

viewpoints, by showing that training can teach people to develop a mindset with attributes like proactiveness that is often assumed to be innate.

We work with a sample of 1,500 microenterprises in Lomé, Togo, selected from applicants to a Government project financed by the World Bank. Applicants had to be in business for at least 12 months, have fewer than 50 employees, operate outside of agriculture, and not be a formally registered company. The supporting online material (SOM) text 1 provides full details of the selection process and a timeline (*17*). A baseline survey of these applicants was undertaken between October and December 2013. The business owners are almost equally split by gender (53% female), have an average age of 41 years, and average 9 years of education (Table S2). The sample contains a broad mix of industries (27% manufacturing, 48% commerce, 25% services), with the business earning a mean of 94,512 CFA (US$199) in monthly profits at baseline, with a median of 40,000 CFA (US$84) (*18*). The median firm had 2 employees, while the mean had 3.

The initial state of business practices in these firms suggested significant scope for improvement. This is particularly true for record-keeping, where only 37 percent keep accounts books and only 4.7 percent have a written budget. We also measure marketing, operations management, information seeking, and human resource practices, with only one-third using advertising or publicity, 71 percent comparing sales performance to objectives, and 66 percent visiting competitors to compare prices or product offerings. The mean firm is using 16 out of the 29 different practices we measure at baseline. The initial level of personal initiative shows business owners start with reasonably high levels of initiative, but still have room for improvement. Business owners show a mean personal initiative level of 4.2 on a five-point Likert scale with values ranging from 2.1 to 5.0. SOM text 2 describes the scale and its construction in greater detail.

The 1,500 firms were stratified by gender and sector, and then grouped into triplets according to baseline profits. Within each triplet, firms were then randomly assigned to a control group (N=500), traditional business training treatment group (N=500), and personal initiative training treatment group (N=500). Table S2 shows balance on baseline observables.

The traditional business training treatment group was invited to receive the Business Edge training program, which is an internationally accredited program developed by the International Finance Corporation. The content of the training focused on four core topics: accounting and financial management, marketing, human resource management, and formalization. The take-up rate was 83.8 percent of those invited to training.

The second treatment group was offered a new personal initiative training program. It has a very different content from traditional business training programs, focusing on teaching a mindset of self-starting behavior, innovation, identifying and exploiting new opportunities, goal-setting, planning and feedback cycles, and overcoming obstacles. The take-up rate was 84.4 percent.

SOM text 2 and Table S3 provide detailed information on each program. Both training programs were implemented in three half-day sessions per week over four weeks in April 2014 for a total of 36 hours classroom instruction. This was followed by a trainer visiting each business for three hours, once per month for the next four months to answer any follow-up questions and assist with the implementation of the concepts learned during training. Entrepreneurs enrolled in the training were required to pay a highly-subsidized fee of 5,000 CFA (approximately US$10).

Four rounds of follow-up surveys were collected between September 2014 and September 2016, enabling us to track business outcomes for up to 2 years and 5 months after the training took place. Attrition rates were reasonably low, averaging 9 percent. SOM text 2 describes how the key

outcome measures were constructed, and details the estimation methodology which was set out in advance in a registered pre-analysis plan (https://www.socialscienceregistry.org/docs/analysisplan/329/document).

Our main hypothesis is that personal initiative training can be more successful than traditional business training in helping firms survive, sell more, and increase their profitability. We test this hypothesis in Table 1, which presents the intention-to-treat impacts of being assigned to either training program. We pool impacts over the four post-treatment waves to maximize statistical power, with the coefficients then representing the average impact over the 2.5 years post-treatment (*19*). Figure S1 shows the trajectory of impacts on profits over time. Impacts were lower in the third round, during a period of post-election uncertainty, but SOM text 3 shows we cannot reject that the round-by-round impacts of personal initiative training are equal to the pooled estimate.

Ninety-three percent of control group entrepreneurs are still operating a business at the time of our last survey round, and neither training program has a significant impact on firm survival. Although the point estimates are positive, the impact of traditional business training is not significant for sales, profits, or an aggregated index of these measures. In contrast, we find larger and statistically significant impacts of personal initiative training on all of these measures. Monthly sales increase by 114,733 CFA ($241), which is a 17 percent increase relative to the control mean, and monthly profits by 28,709 CFA ($60), a 30 percent increase relative to the control mean. Personal initiative training has a significantly higher impact than the business training on monthly and weekly profits, and on the aggregate index of sales and profits outcomes.

The resulting increase in firm profits occurs across the distribution, and is shown graphically in Figure 1. Entrepreneurs who went through personal initiative training are earning higher profits than those in the traditional training or control groups at every percentile. SOM text 4 and Table

S7 show this result is robust to alternative transformations of sales and profits. We cannot reject that there is no differential effect of either training according to gender (Table S8). Personal initiative training therefore also helps female-owned businesses to grow, in contrast to the experiences documented in the literature with many traditional training programs.

How does personal initiative training enable businesses to grow by more than traditional training? We examine several key mechanisms in Table 2, and conduct further exploration in SOM text 5.

The first column of Table 2 examines the impact on the proportion of core business practices that firms are using. Traditional business training leads to a 6 percentage point increase in the number of good business practices used, which is consistent with the impact of several ILO training programs (*5*). However, without explicitly focusing on teaching these practices, personal initiative training results in almost the same total increase in business practices. Table S12 shows this occurs through changes in a wide range of practices, although traditional training improved record-keeping practices more. Column 2 then looks at the measure of personal initiative exhibited in the business. While traditional business training also leads to a significant increase, the impact is almost twice as large from the personal initiative training. We view this as changing the psychological mindset (*20*), and in SOM text 5 discuss how mindset differs from underlying personality traits, show robustness to alternative measures of personal initiative (Table S9), and show that the impact is enduring, lasting through the final survey round (Table S10).

Column 3 considers an aggregate index measure of different capital and labor inputs. We see both training programs led to firms using more inputs, but the impact was significantly larger with personal initiative training. Examining the components of this index in Table S13, we find that these firm owners used more labor, made more big investments, but do not use more paid workers or have higher levels of inventories than those who received traditional training.

Table 2's column 4 shows that personal initiative training leads to a 0.31 standard deviation increase in an aggregate index of innovation activities, which is significantly larger than the 0.12 increase for traditional training. In particular, firms that went through personal initiative training have introduced more new products, and these new products are more likely to have been their own idea and be new for the neighborhood, rather than just copied from others (Table S14). A consequence is that these firms are more likely to have diversified into a different product line (column 5). In column 6, we show that the personal initiative training leads to a 0.15 standard deviation increase in an aggregate index of access to finance, which is double the impact of the traditional business training. Firms are not more likely to receive a loan after training, but there is an increase in the amount they think they can borrow, and an increase in the amount actually borrowed. The personal initiative training has also large and statistically significant impacts on the amount received from gifts, which is not the case for the traditional business training.

Using mediation analysis, we show in Table S16 that business practices, personal initiative, capital and labor inputs, the diversification of product line, and access to finance, jointly mediate the total effect of personal initiative training and its differential effect from traditional training.

The personal initiative training cost US$756 per invited participant (similar to that of the traditional training), yielding a $60 per month increase in monthly profits over the first two years. As a result, it is extremely cost-effective, paying back the cost within approximately one year. SOM text 6 shows a lower bound on the return on investment (ROI) is 82%, and then, using different assumptions on how quickly the benefits might disappear beyond our sample period, we estimate ROIs ranging from 140% to 393% over a ten-year period.

Taken together, our results show how a psychological mindset training approach can lead to innovation and improved entrepreneurial success, thereby providing support for a middle ground

between entrepreneurship being born or made. Moreover, the impacts on intermediate channels suggest that personal initiative training largely enables firm owners to still obtain the key benefits of traditional training in terms of improved business practices and some input changes. However, by helping the entrepreneur to become more pro-active and constantly search for new opportunities, it also enables additional gains through encouraging owners to innovate: differentiating themselves from other businesses and developing new areas for their business. The results therefore suggest the promise of psychology to better influence how small business training programs are taught, and the importance of developing an entrepreneurial mindset in addition to just learning the business practices of successful entrepreneurs.

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[17] See SOM text 1 in the supporting online materials, available at www.sciencemag.org/cgi/content/full/xxx

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Supporting Online Material

SOM Text

Figs. S1 to S2

Tables S1 to S16

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Figure 1: Quantile Treatment Effects on Monthly Profits Show Greater Gains from Personal Initiative Training Across the Distribution

Notes: Estimates from quantile regression of the inverse hyperbolic sine transformation of profits, which behaves like the logarithmic transformation but allows for zeroes and negative values. Regression pools data across all four follow-up rounds, controlling for survey round effects and baseline profits. The difference between the two training programs is statistically significant at the 10 percent significance level or lower for all percentiles shown except for the 15th (p=0.13) and the 70th (p=0.20). Figure S2 plots the p-values for testing equality of these effects.

Table 1: Impact of Training Programs on Survival, Profitability and Sales

	Business Survival	Monthly Sales	Monthly Profits	Weekly Profits	Profits and Sales Index
Traditional Business Training	-0.005	38,077	10,746	3,086	0.029
	(0.008)	(57,812)	(6,802)	(2,050)	(0.030)
Personal Initiative Training	-0.003	114,733*	28,709***	6,685***	0.100***
	(0.008)	(58,619)	(7,110)	(1,979)	(0.031)
Number of Observations	5,792	5,642	5,642	5,633	5,643
Number of Firms	1,499	1,492	1,492	1,492	1,492
Test of Equality of Treatments p-value	0.813	0.171	0.014	0.091	0.025
Control Group Mean	0.960	680,807	96,089	30,417	0.000

Notes:
Data are from four survey rounds collected by the authors, and show average impact over the 2.5 years post-training. All regressions include randomization strata and survey wave dummies.
Huber-White robust standard errors in parentheses, clustered at the firm level.
*, **, and *** denote significance at the 10, 5, and 1 percent levels respectively.
Sales are winsorized (capped) at the 99th percentile and Profits at the 1st and 99th percentile, reducing the influence of outliers, and are expressed in terms of real CFA francs.
Profits and sales index is the mean of standardized z-scores of our various profit and sales measures.
F-test used to test equality of impacts of the two training programs.

Table 2: Mechanisms through which training operates

	Business Practices	Personal Initiative	Capital and Labor Inputs	Innovation Index	Diversified Product line	Access to Finance Index
Traditional Business Training	0.060***	0.065***	0.032*	0.117***	0.044**	0.070**
	(0.008)	(0.015)	(0.020)	(0.050)	(0.018)	(0.033)
Personal Initiative Training	0.054***	0.124***	0.078***	0.309***	0.092***	0.147***
	(0.007)	(0.015)	(0.020)	(0.070)	(0.018)	(0.040)
Number of Observations	5,646	5,538	5,655	5,639	5,632	4,207
Number of Firms	1,492	1,484	1,492	1,492	1,492	1,473
Test of Equality of Treatments	0.458	0.000	0.024	0.011	0.010	0.043
Control Group Mean	0.618	4.32	0.000	0.000	0.335	0.000

Notes:
Huber-White robust standard errors in parentheses, clustered at the firm level.
*, **, and *** denote significance at the 10, 5, and 1 percent levels respectively.