Beyond Finance and Business Skills:
Leveraging Behavioral Insights for Entrepreneurship Interventions in Low- and Middle-Income Countries

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Executive Summary

“A deeper understanding of entrepreneurs’ decision-making context can help practitioners improve both their diagnosis of the challenges facing entrepreneurs and the design of entrepreneurship-related policies and interventions.”

A large portion of economic activity in low- and middle-income countries (LMICs) is driven by (micro)entrepreneurs, who face significant challenges in starting and running profitable businesses. More than half of workers in low- and lower middle-income countries run their own businesses, against around 10 percent in high-income countries (ILO, 2019). Around a third of these entrepreneurs are driven by necessity (e.g., running their own business as a means of providing a subsistence income), rather than opportunity (e.g., hoping to build a business that grows beyond the scope of subsistence needs). Well-documented barriers facing LMIC entrepreneurs include weak education systems that hamper human capital development, limited access to finance, poor infrastructure and information access, and weak institutions. Policy interventions have sought to respond to these challenges with often inconclusive or underwhelming results.

Insights from behavioral science can help us better understand how the complexities of the human decision-making process impact LMIC entrepreneurs and the policies aimed at supporting them. Behavioral science recognizes that people’s behavior does not only depend on internal drivers (personality, preferences) and external drivers (information, incentives, regulations), but also on the decision-making process itself, which is influenced by available mental resources, automatic thinking, social norms and relationships, and mental models. While these influences impact everyone, their importance is exacerbated by challenging living conditions, making them potentially more influential for individuals living in LMICs. The majority of entrepreneurship research and programming continues to focus on building capital and business skills, but adding a systematic focus on behavioral influences shows a broad range of potential barriers that might interfere with an entrepreneur’s decision-making process (Figure A). A deeper understanding of entrepreneurs’ decision-making context can help practitioners improve both their diagnosis of the obstacles facing entrepreneurs and the design of entrepreneurship-related policies and interventions.

Figure A: Potential Behavioral Barriers Throughout the Business Lifecycle
Entrepreneurs face a variety of behavioral barriers throughout the lifecycle of business ownership (see Figure A). Starting and growing a business is a messy, non-linear process full of uncertainty, with many decision points, frustrations, and changes along the way. For example, individuals may fail to form entrepreneurial intentions if they lack self-efficacy or if they believe there is social stigma attached to self-employment. When starting a business, aspiring entrepreneurs must overcome limited networks, lack of trust, and limited self-control to gain information and accumulate the necessary funding. As business owners, entrepreneurs face constant pressure on their time and attention, which can limit available mental bandwidth and cause entrepreneurs to forgo opportunities to improve business operations. Due to social norms, some entrepreneurs may feel pressured to share profits with family rather than reinvesting in further growth, while others may simply not aspire to grow their businesses. These and other factors can help explain why many entrepreneurship support programs face low take-up and limited impacts.

“Starting and growing a business is a messy, non-linear process full of uncertainty, with many decision points, frustrations, and changes along the way.”

Behaviorally informed interventions incorporate an understanding of behavioral science into solving entrepreneurs’ problems (see Figure B). For example, a psychologically informed entrepreneurship mindset training in Uganda helped improve self-efficacy, which in turn led to higher rates of business start-up among participants (Frese, Gielnik, & Mensmann, 2016). In Mongolia, group loans helped individuals overcome self-control challenges, leading to higher business investment rates (Attanasio, Augsburg, De Haas, Fitzsimons, & Harmgart, 2015). Rules-of-thumb and heuristics-based trainings have been shown to be more effective in improving business outcomes for bandwidth-constrained entrepreneurs (McKenzie, 2020). In Mozambique, entrepreneurs who learned they ranked poorly in performance compared to their peers increased the effort they put into their businesses, which bolstered sales and profits (Seither, 2019). A variety of evidence already exists that behaviorally informed intervention strategies can help practitioners increase the effectiveness of their programming.

Figure B: Behaviorally Informed Interventions to Support Entrepreneurship
Target groups, such as female entrepreneurs, stand to gain significantly from the application of a behavioral lens. Female entrepreneurs are comparatively disadvantaged, with lower rates of business start-up, lower growth expectations, and higher rates of exit. These outcomes may be partially explained by behavioral barriers facing female entrepreneurs, such as discrimination, household responsibilities, household decision-making processes, smaller networks, and negative mental models. While women have often not benefitted from traditional business trainings, behaviorally informed interventions including empowerment training, female role models, and mentorship programs have shown more positive impacts.

Integrating behavioral science into the diagnosis of problems facing entrepreneurs and the design of interventions to address those problems will help strengthen initiatives to support entrepreneurship. Problem diagnosis can be improved by incorporating a focus on behavioral issues into data collection and analysis, either through integration of behavioral insights into traditional assessments or through self-standing behavioral analysis (e.g., user journey mapping or the use of personas). Diagnosis will inform potential design considerations, followed by testing potential responses in a systematic way to discover what works best within a given context. Practitioners can also use traditional monitoring and evaluation processes to identify the presence of behavioral challenges by asking “why” questions to better understand participant behavior.

A significant learning agenda remains for practitioners and researchers engaged in LMIC entrepreneurship. We do not yet understand the true extent of behavioral barriers facing entrepreneurs, nor do we have strong evidence for which of those barriers are the most important. It is also unclear how much behavioral barriers vary across different subgroups of entrepreneurs, including women, youth, minority, migrant, or refugee entrepreneurs, or how they may change in different contexts. More work is needed to rigorously measure the impact of different intervention strategies and replicate findings, while trying to better understand the pathways through which interventions are effective at enacting change. Because many interventions have only been completed recently, future research should also look at the long-term impacts of behavioral interventions on business performance and survival, as well as at cost-effectiveness of different intervention strategies.

In sum, applying behavioral insights offers great potential to enhance the take-up and impact of entrepreneurship interventions. These new perspectives for problem diagnosis and intervention design represent a significant step forward in understanding and adapting to entrepreneurs’ contexts. Given the importance of entrepreneurship in LMICs, improvements in entrepreneurship support programs could have notable repercussions for people’s livelihoods, broader economic growth, and poverty reduction. However, systematically incorporating behavioral insights will require openness to change from practitioners, for instance in terms of improved diagnostics, adaptive program design, and more structured monitoring and evaluation. Those who are willing to go this extra mile can expect to see bigger impacts on the entrepreneurs themselves and their communities.

“Applying behavioral insights offers great potential to enhance the take-up and impact of entrepreneurship interventions.”
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1 Introduction

“Building a more comprehensive view of entrepreneurs’ decision-making and behavior is important for designing successful policies and programs.”

Entrepreneurship in Low- and Middle-Income Countries

Self-employment is the norm in low- and middle-income countries (LMICs). More than half of workers in low- and lower middle-income countries run their own business, compared to approximately 10 percent in high-income countries (ILO, 2019). Similarly, the employment share of micro-enterprises (2–9 employees) is much higher in low- and lower-middle-income countries than in upper-middle- and high-income countries. In total, self-employment and microenterprises represent 80 to 90 percent of employment in LMICs (ibid). Since self-employment and microenterprises represent such a significant portion of economic activity, policies and interventions to support entrepreneurship, both in terms of business entry and growth, have a wide-ranging appeal among governments and development partners.

Entrepreneurs are commonly divided into necessity and opportunity entrepreneurs. Not all the self-employed are equal. While some engage in self-employment due to the lack of other (wage-employment) opportunities, for others it is a deliberate choice. Necessity entrepreneurs are typically defined as those individuals who use entrepreneurship as a means of providing a subsistence income and do not grow the business beyond the point of creating employment for workers in their immediate family. Opportunity entrepreneurs are those individuals who aim to create large, vibrant businesses that grow much beyond the scope of an individual’s subsistence needs and provide jobs and income for others (Olafsen & Cook, 2016).

Entrepreneurial activity in LMICs is more heavily weighted towards necessity entrepreneurship in the informal sector. In the Global Entrepreneurship Monitor’s (GEM) 2019 survey, 35 percent of entrepreneurs in low-income economies identified themselves as necessity entrepreneurs versus 18 percent in high-income economies. Opportunity entrepreneurship tends to represent a higher proportion of entrepreneurs as a country’s income level increases (Bosma & Kelley, 2018). Over 80 percent of LMIC entrepreneurs (employers and own-account workers) operate in the informal sector (ILO, 2018).

Entrepreneurs in LMICs face significant barriers to starting and running profitable businesses. Due to weak education systems, individuals may lack basic skills like numeracy and literacy that would help them gain useful work experience or operate their business. Aspiring entrepreneurs often have limited existing wealth to serve as start-up capital or financial safety net, while financial markets in LMICs are more likely to be inefficient and costly. Accessing information about market prices and demand is typically challenging. Dealing with a weak business environment and overcoming regulatory constraints represent common obstacles, while red tape and financial costs can also deter formalization. After starting their business, many entrepreneurs lack the basic business skills (such as marketing, bookkeeping, etc.) to run operations that generate a profit. Corruption, weak institutions, and instability are more common in LMICs, and the lack of access to qualified workers, financial capital, markets, and infrastructure may present obstacles for entrepreneurs hoping to expand (Edmiston, 2008; Olafsen & Cook, 2016).

Policy interventions supporting entrepreneurship have sought to respond to these challenges, often with inconclusive results. Interventions to support prospective and existing entrepreneurs are extremely common, both in the context of Active Labor Market Programs as well as Private Sector Development efforts. At least $1 billion is spent annually training 4 to 5 million potential and existing entrepreneurs in developing countries through governments, microfinance organizations, NGOs, and
private providers (McKenzie, 2020). Yet, even though entrepreneurship programs can have higher impacts than other types of labor market programs (Kluve, et al., 2017), impacts can vary widely in magnitude and across different types of intervention strategies (Jayachandran, 2020). In general, impacts on intermediate outcomes (such as business knowledge) are more likely to be positive than impacts on final outcomes, such as earnings, profits and job creation (Grimm & Paffhausen, 2015). Recent evidence on small business training suggests a modest average increase of profits and sales of approximately 5-10 percent (McKenzie, 2020). Microcredit shows some evidence of promoting entrepreneurial activity, but with only modest impacts on household income (Banerjee, Karlan, & Zinman, 2015; IPA & J-PAL, 2015). Moreover, little is known about long term effects and cost-effectiveness of entrepreneurship promotion interventions, and where such evidence is available, it is not that promising (Blattman, Fiala, & Martinez, 2019). Finally, many entrepreneurship interventions are challenged by low up-take and high drop-out rates (McKenzie & Woodruff, 2014; Ho, 2019). Why are these interventions not more effective?

Behavioral Science and Decision-Making

Behavioral science seeks to unpack the complexities of the human decision-making process. Traditionally, people’s decision-making has been viewed as the result of internal factors (e.g., preferences, personality) and external drivers (e.g., information, incentives, regulations). Individuals are seen as engaging in rational cost-benefit analysis between different options, which in turn determines behavior. In reality, decision-making is more complicated. Psychological, social, and cultural factors influence what we think and do (World Bank, 2015). Our behavior may therefore often be less rational than we might wish. For instance, even though we know we should save money for the future, it may be more convenient to indulge on a restaurant dinner than stay home and cook. The systematic study of this decision-making process, behavioral science, suggests four major types of influences that may impact the decision-making process, contributing to “bounded rationality” (see Figure 1):

- **Mental Resources:** The brain only has limited capacity to process information and make calculated decisions. This capacity may be influenced by physiology (e.g., sleep, nutrition, exercise), stress, and mental health. When the brain’s mental resources are depleted, deliberative decision-making like self-control, attention, and working memory suffer.
  - *When I’m tired, I don’t want to cook myself and instead choose to eat dinner at a restaurant.*

- **Automatic Thinking:** To conserve mental resources, the vast majority of thinking we do is “automatic” — we evaluate alternatives rapidly based on simple heuristics, like what example comes to mind most quickly, what information we saw most recently, or what fits with our preexisting conceptions, and use this information to aid our decision-making.
  - *I’m picking up dinner from a restaurant tonight because that’s what I do every night after work.*

- **Social Thinking:** Social norms and relationships (e.g. family, peers) influence our decision-making. In some cases, this can lead us to behave in ways that are not in line with our personal preferences nor beneficial to ourselves.
  - *I’m going out for dinner tonight because my friends invited me, even though it’s not in my budget.*

- **Mental Models:** We hold relatively fixed beliefs about how the world works and our place in it, which help us understand ourselves and interpret our environment more easily. For instance, mental models can relate to gender identity, cultural stereotypes, the value of education, etc.
  - *I’m never going to be able to save enough to retire anyway, so I may as well go out for a nice dinner tonight.*
Figure 1: Determinants of Decision-Making (simplified illustration)

Source: Adapted from World Bank, 2015; Hempel, 2020

While these influences on the decision-making process apply to everyone, their importance is exacerbated by challenging living conditions, making them potentially more influential for individuals living in LMICs. For example, financial stress or scarcity (common concerns for those living in poverty) has been shown to impair the brain’s executive functions, which can worsen memory and reduce attention (see Box 1). Present bias, a form of automatic thinking in which we weigh benefits and costs more strongly when they are closer to the present, is likely to be more significant in circumstances with higher levels of uncertainty. In societies with weaker safety nets, social networks become a particularly important source of support which in turn may exacerbate the influence of others over one’s decisions. Limited exposure to positive external influences (e.g. role models) may breed detrimental mental models in which an individual believes they cannot change their circumstances.

Box 1: How Poverty Negatively Impacts Decision-Making: The Harvest

Scarc mental resources can lead to worse decision-making, possibly due to the cognitive load poverty imposes on an individual. For instance, Mani, Mullainathan, Shafir, & Zhao, 2013 show this by testing the cognitive performance of sugarcane farmers in India over the planting cycle. Farmers are challenged with a series of cognitive tests just before the harvest (when 99% have loans) and after the harvest (when only 13% have loans). The same farmer performed considerably worse before the harvest, when poor, than compared to after the harvest, when richer. The differences could not be explained by time available, nutrition, work effort, or stress; instead, poverty-related concerns were consuming mental resources, leaving less cognitive capacity available for other tasks. The difference in individuals’ test scores was about equal to ¾ of the cognitive deficit associated with losing an entire night’s sleep.

Because self-employment and microenterprises represent 80 to 90 percent of employment in LMICs, building a more comprehensive view of entrepreneurs’ decision-making and behavior is important for designing successful policies and programs. The importance of understanding behavior and decision-making for labor market outcomes (for both individuals and firms) is increasingly recognized (Kremmer, Rao, & Schilbach, 2019). After all, decisions regarding employment and work are inherently complicated and subject to significant social and emotional influences. There is also a growing literature on the psychology of entrepreneurship (Frese & Gielnik, 2014; Gielnik, Cardon, & Frese, 2021). However, the majority of entrepreneurship programming continues to focus on the regulatory environment, access to capital, and business skills (OECD, 2017; UNCTAD, 2012). Adding a systematic
focus on behavioral science concepts reveals a broad range of potential behavioral barriers that might interfere with an entrepreneur’s decision-making process. Indeed, starting and growing a business is a messy, non-linear process full of uncertainty, with many decision points, frustrations, and changes along the way. For example, as the single decision-maker, often operating under significant time and financial constraints, an entrepreneur may find it difficult to make decisions through careful deliberation. Self-control presents a continuous challenge when an entrepreneur has control over her own time and money. Automatic thinking based on the easiest information available or the status quo is likely to inform her choices. She may face significant pressure to conform to social norms in her choice of or management of her business. Meanwhile, she must maintain confidence in herself and her environment to be able to take appropriate risks. Understanding this decision-making context can help practitioners improve both their diagnosis of challenges facing entrepreneurs as well as the design and implementation of interventions to address those challenges. Unfortunately, many programs so far are not well equipped to effectively help (aspiring) entrepreneurs navigate this challenging process.

“Starting and growing a business is a messy, non-linear process full of uncertainty, with many decision points, frustrations, and changes along the way.”

Objective of this Paper

This report aims to raise awareness about the relevance of applying a behavioral lens to entrepreneurship interventions in LMICs. To do so, we synthesize the existing knowledge on applying behavioral science to entrepreneurship programming and provide a conceptual overview of key behavioral barriers and interventions along the typical stages of entrepreneurship. While we draw on a wealth of existing research, we do not intend to provide a complete picture or systematic review of the evidence base. Instead, we hope to offer an intuitive and accessible overview of key concepts and evidence to help practitioners and researchers working on entrepreneurship promotion incorporate the lessons from behavioral science in their work. In doing so, we primarily highlight what can work (and the supporting evidence), fully recognizing that there are often additional studies showing more muted impacts for the different intervention strategies.

Our methodology is based on a literature review and key-informant interviews. Desk research focused on identifying relevant research and interventions concerning entrepreneurship and behavioral science, with particular attention to LMICs. We also spoke with 19 academics and practitioners to discuss the relevance of different challenges facing entrepreneurs and understand diverse perspectives on the applications of behavioral science concepts to entrepreneurship interventions. The remainder of this note will focus on describing behavioral barriers and behaviorally informed interventions in more detail, and how these behavioral insights can be integrated into the project cycle of entrepreneurship promotion interventions in LMICs.

2 Behavioral Barriers to Entrepreneurship

“We cannot help entrepreneurs overcome the challenges they face if we do not understand what those challenges are.”

In addition to traditional barriers (e.g., lack of skills, capital, access to markets), entrepreneurs face numerous behavioral barriers throughout the lifecycle of business ownership (see Figure 2). We cannot help entrepreneurs overcome the challenges they face if we do not understand what those challenges are or what behavioral bottlenecks may be causing them. Some barriers — e.g., lack of self-efficacy, the belief that an individual can change their own circumstances and overcome challenges that arise — may bedevil an entrepreneur constantly, while others are more likely to be a barrier only at a particular stage in the entrepreneurship process, such as social norms that discourage potential
entrepreneurs from pursuing their own business. This section introduces some of the existing research on behavioral challenges facing LMIC entrepreneurs throughout the different stages of the entrepreneurial process. A more exhaustive list of potential behavioral barriers, including ones with less supporting evidence so far, can be found in Appendix 1. For simplicity, the barriers listed in this section are organized according to the stage of entrepreneurship for which there is most available evidence, even though many of them may occur in more than one stage.

Figure 2: Selected behavioral barriers throughout the stages of entrepreneurship

“Behavioral” patterns of decision-making should not be viewed just as biases; they may be rational adaptive strategies based on a given context. For instance, while an entrepreneur’s decision to redistribute income from her business to her extended family could be viewed negatively from a pure business perspective, it may be quite rational to do so to solidify social ties and provide a form of insurance against future income shocks. Likewise, strongly favoring present over future consumption may make sense in a highly uncertain environment. However, both of these decisions carry downsides: long-term investments may be foregone. Thus, these decision-making patterns may lead to suboptimal outcomes for individuals and their businesses.

Intention Stage

During the intention stage, potential entrepreneurs consider whether or not to start their own business. This stage is driven by 1) the perceived desirability and 2) the perceived feasibility of becoming an entrepreneur (Esfandiar, Sharifi-Tehrani, Pratt, & Altinay, 2019). Perceived desirability is informed by personal interest (Do I want to be my own boss? Is it hard to find a job elsewhere?) as well as perceived social norms (What will other people think if I become an entrepreneur?), while perceived feasibility is based on self-confidence and self-efficacy (Can I be successful doing this?). These factors — personal interest, social norms, and perceived feasibility — may change over individuals’ lifetimes with their external environment or level of education, meaning that entrepreneurial intention is malleable. Behavioral barriers to entrepreneurship during the intention stage are those barriers that diminish the perceived desirability or feasibility of becoming an entrepreneur. For example:

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1 Todd & Gigerenzer, 2012.
• **Lack of self-confidence**: Self-confidence is a person’s belief in their own abilities and skills. Without a sense of self-confidence, individuals may believe that they will fail as entrepreneurs, so perceived feasibility will remain low and individuals may not develop entrepreneurial intentions. Individuals who are not confident in their skills to start a business are an estimated 4 to 6 times less likely to do so (Youth Business International, 2016).

• **Lack of self-efficacy and personal initiative**: Self-efficacy is a person’s belief in their ability to accomplish a set of tasks. It is commonly associated with an “entrepreneurial mindset”, such as proactivity, taking responsibility, and being willing to learn. Individuals with low levels of self-efficacy are less likely to set challenging goals and more likely to give up on achieving goals; they are also less likely to be able to recover from failure. High levels of self-efficacy are related to the development of entrepreneurial intentions (Zhao, Seibert, & Hills, 2005).

• **Loss aversion**: Loss aversion is a phenomenon in which individuals tend to value “not losing” more than they value “winning”. Because starting a business may involve failure, and failure may carry risks of lost capital or social status, loss aversion may make questions of feasibility loom larger than desirability and prevent individuals from taking the risks required to become entrepreneurs. In recent surveys, more than half of individuals who believed good opportunities existed for entrepreneurs did not want to start a business due to fear of failure (Bosma & Kelley, 2018).

• **Lack of role models**: Without a role model to demonstrate that pursuing entrepreneurship is both desirable and achievable, individuals may be less likely to acquire the motivation to start a business (Dodd & Keles, 2014). For instance, when a potential opportunity entrepreneur is deciding between wage- and self-employment, not having a role model to demonstrate the possible outcomes of entrepreneurship may push him towards accepting the wage job.

• **Negative social norms and peer effects**: In certain cultures, entrepreneurship may not offer the positive social recognition an individual might aspire to. Because individuals value status independent of monetary consequences (Huberman, Loch, & Önçüler, 2004) and the status of entrepreneurs varies by country (Bosma & Kelley, 2018), social status of entrepreneurs may influence individuals’ decisions to pursue entrepreneurship. A challenge highlighted anecdotally by an entrepreneurship training in Mozambique was social pressure encouraging entrepreneurs to get formal corporate jobs (Bitga, Feige, & Pallatino, 2020).

**Start-Up Stage**

**During the start-up stage, aspiring entrepreneurs choose to pursue a particular business opportunity and acquire the necessary inputs to begin operations.** The prospective entrepreneur must choose which product(s) or service(s) to sell, either copying an existing business model or seeking some way to differentiate his business. He must also choose where to start his business, which may be driven by either strategy or convenience. Next, he must secure start-up capital and procure required assets and decide whether to register the business or not. He may choose to hire employees, although typically budding entrepreneurs remain own operations. Major behavioral barriers at this stage include:

• **Overconfidence**: Many individuals overestimate their abilities while underestimating risks, costs, and time. Prospective entrepreneurs, particularly opportunity entrepreneurs, may overestimate the market potential of their business while misjudging the time it will take to start their business and/or generate profits. Further down the line, overconfident entrepreneurs may maintain unprofitable firms for too long if they believe circumstances will improve (Frese & Gielnik, 2014).

• **Limited self-control**: Individuals may lack the will or ability to resist short-term temptations in order to achieve their long-term goals. Aspiring entrepreneurs will have to be patient and make short-term sacrifices, such as forgoing income, to invest in starting or growing their businesses (Attanasio, Augsburg, De Haas, Fitzsimons, & Harmgart, 2015). High levels of self-control have been shown to help bring entrepreneurial intention to fruition as it helps an individual avoid doubt and fear (Van Gelderen, Kautonen, & Fink, 2015).
• **Limited networks:** Without a strong social and professional network, aspiring entrepreneurs may find it difficult to acquire the necessary motivation, identify opportunities, validate their ideas, find business contacts (e.g., customers, suppliers, employees and other business partners), or secure the resources necessary to start a business (Dodd & Keles, 2014). For instance, entrepreneurs often draw on potential business ideas or business models from their existing environment. If their network is limited, copying business models may be problematic — for example, if it leads to the fifth nearly-identical shop in the same neighborhood. Without a strong social network entrepreneurs may also lack a form of insurance and support, which may be particularly important in LMICs if formal institutions are weak.

• **Lack of trust:** Low levels of trust are common in many LMICs, and potential entrepreneurs may not trust governmental or non-governmental organizations as sources of assistance, which may limit options for receiving training or investment.² For instance, take-up of $200 grants was only 71 percent in one Ugandan study because individuals believed that the grant offer was “too good to be true” (Fiala, 2014). An entrepreneurship mentoring program in the Caribbean struggled to secure uptake because entrepreneurs feared that mentors would steal their business ideas (Youth Business International, 2016). Lack of trust can be particularly burdensome in (post-) conflict environments (see Box 2).

• **Limited memory:** Individuals can only remember a finite amount of information, and the information they retain from a training or experience is likely to degrade over time. For instance, a study of microentrepreneurs in Ethiopia found that a large share of those who had previously attended a business training admitted to having forgotten the material covered (Giera & Tekle, 2017). Hence, translating the contents from entrepreneurship training into practice may often be a challenge, especially when training is received too far in advance of actually starting a business (Chrisman, McMullan, Ring, & Holt, 2012).

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**Box 2: Country Context Matters: Post-Conflict Environments**

Conflict may cause severe damage to infrastructure, businesses, and economic growth prospects, but histories of conflict and violence are also likely to enhance behavioral barriers facing (aspiring) entrepreneurs. Building professional networks and relationships is made more difficult in post-conflict societies due to a lack of mutual trust. In communities that face or have faced significant uncertainty, present bias (weighing costs and benefits closer to the present more heavily) is likely to be stronger. Although this present bias is quite rational when an individual cannot trust what the future holds, present-biased entrepreneurs may have more trouble setting goals or planning. Uncertainty may also weigh on mental resources, which limits attention available for other matters, and may cause individuals to have a lower tolerance for risk and to be more loss averse, which in turn may negatively affect investment decisions. Mental health disorders such as depression and anxiety are more likely to impact individuals in post-conflict areas; these mental health challenges are linked to lower productivity and poor inter-generational outcomes (Saraf, Rahman, & Jamison, 2019). While such behavioral obstacles can affect (aspiring) entrepreneurs in (post-) conflict environments in general, they may be particularly acute for forced migrants due to the stress and trauma they commonly experience (Schuettler & Caron, 2020).

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**Operational Stage**

Running a business requires that entrepreneurs actively juggle a variety of competing tasks and demands. Optimally, they should engage in planning, record-keeping, marketing, budgeting, and other business practices that have been shown to increase productivity (McKenzie & Woodruff, 2017). Often, LMIC entrepreneurs fail to follow many of these basic business practices. Entrepreneurs must also determine the price of their products or time and communicate their worth to clients and customers, and they must decide whether and how much to invest in their business versus save for their...

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² In many cases, low levels of trust may be perfectly rational, given high uncertainty around the benefits of available services, especially if people have experience with poor service provision in the past.
household. They must also deal with constant changes and problems, especially when the business is still new, to ensure its survival. Behavioral barriers influence these day-to-day operations as well as entrepreneurs’ ability to improve business practices:

- **Scarce mental resources**: The substantial time and financial pressure facing entrepreneurs magnifies mental resource challenges, such as limiting mental bandwidth available for work or training, lowering self-control, intensifying emotions, and favoring automatic thinking over deliberation. Such challenges are likely to be particularly pressing for poor necessity entrepreneurs, who may face conditions of scarcity in their daily lives that captures significant mental space (Mani, Mullainathan, Shafir, & Zhao, 2013). These pressures are likely to have a negative impact not only on an individual’s ability to make daily business decisions, but also on what new information individuals are able to absorb from conventional business trainings. Severe worries and uncertainty among entrepreneurs can even lead to mental illness, such as depression and anxiety, which in turn is likely to further depress business outcomes (Ridley, Rao, Schilbach, & Patel, 2020).

- **Limited attention**: Small enterprise owners are responsible for managing all aspects of their business and overcoming constant difficulties, which serve as regular distractions. Because individuals only have a finite amount of attention at their disposal, when that attention is divided, they will be unable to perform a task as well. This may lead to a failure to notice and foregone opportunities to improve business operations. For example, Indonesian seaweed farmers had not historically considered pod size when planting, even though planting based on pod size could improve yields. Farmers were therefore failing to maximize their output despite their significant experience (Hanna, Mullainathan, & Schwartzstein, 2014). In a second example, small retailers in Kenya lost significant sales because they did not keep change on hand for larger bills offered by customers, a practice they would change only after someone highlighted the issue (Beaman, Magruder, & Robinson, 2014). Limited attention is likely to be a particular barrier when dealing with more complex business matters (e.g., strategic decisions, adoption of new technologies or business practices, complicated applications for support services).

- **Hassle factors**: Hassle factors are small inconveniences that prevent individuals from taking action or following through on their intentions. Such factors may limit take-up of training programs or funding opportunities that could help business owners. For example, an inconvenient training site may discourage program attendance, and the lack of a printer and scanner to print, physically sign, and submit a form may prevent application to a funding program.

- **Time constraints**: Entrepreneurs are busy people. Hence, they may fail to make time for trainings in their full schedules. Only 39 percent of perspective entrepreneurs in Bosnia who demonstrated interest in attending a business training course actually attended; of those who did not, most blamed lack of time (Bruhn & Zia, 2011). Indeed, time constraints can contribute to low take-up or high attrition in business support interventions across the different stages.

- **Present bias**: Individuals tend to give stronger weight to costs and benefits closer to the present and are less willing to wait for a comparatively larger reward in the distant future. If entrepreneurs are disproportionately influenced by present bias, they may overweight present consumption and forgo worthwhile investments (Bauer, Chytilová, & Morduch, 2012). For example, present bias led farmers to consume their savings instead of investing in fertilizer, leading to lower usage of fertilizer than the farmers had intended earlier in the season (Duflo, Kremer, & Robinson, 2011). Scarcity exacerbates this challenge, which may make it a more significant barrier for necessity entrepreneurs. In an experimental game, “poor” participants were more likely to borrow at higher rates, demonstrating higher levels of present bias, which led to worse outcomes (Shah, Mullainathan, & Shafir, 2012).

- **Emotions**: Individuals’ emotions can negatively affect their decision-making. For example, entrepreneurs who are strongly invested in their work and/or who have a positive relationship with their clients may underprice their products or services (or give them away for free).
Handicraft makers in India who placed a strong intrinsic value on their work charged less to customers whom they viewed as more likely to appreciate their work — they therefore did not maximize profits (Ranganathan, 2015). Being strongly invested in a particular product idea can also lead entrepreneurs to ignore customer needs. Frustration and poor emotional regulation are also a common source of conflict in group-based businesses (see Box 3).

- **Mental Accounting:** Mental accounting is the set of cognitive tools we use to organize, evaluate, and track our finances internally. For entrepreneurs, mental accounting may be particularly important in the decision of how to separate business and household finances. Having “separate accounts” for the business and the household may lead entrepreneurs to constrain their financial decision-making and reinvest business income in their business, while if they lack a separate mental account for business income, they may be more likely to use business income for short-term household consumption (Schaner, 2018).

**Box 3: Challenges of Working in Groups**

Working in teams or with groups may be an effective way for entrepreneurs to pool talent, ideas, resources, and risk. Social engagement may also help mitigate some of the loneliness that commonly afflicts entrepreneurs and reduce the risk of giving up when challenges arise. However, working with others amplifies the likelihood of interpersonal conflict. Common sources of conflict include differences related to division of labor, business and investment decisions, how profits are divided, etc. Entrepreneurs commonly fail to anticipate such interpersonal conflict, which can make it a significant challenge to their business operations. While problems can arise in any team, poor leadership or team fit can exacerbate the issue.

In many LMICs, people organize into cooperatives. These cooperatives help pool resources and reduce risk for any one individual and so provide a valuable form of insurance for necessity entrepreneurs. However, members of these cooperatives or often very poor. In Brazil, for instance, members of waste picker cooperatives are often women, who may face violence in the home, or ethnic minorities, who may face marginalization in the community. Many face high levels of stress in their lives, may suffer from mental health problems, and have a history of aggressive communication. As a result, emotion regulation, communication, and collaboration in the workplace can be a significant challenge, breeding conflict.

Opportunity entrepreneurs also face challenges when working in groups. Individuals may have different life goals, commitment, or preferences for the joint business. Such differences can lead to deeper disagreements in which individuals start to dislike or distrust one another, which can threaten the survival of their business (Thurston, 1986). While some of the collaboration challenges may be predictable and can be discussed upfront (e.g., distribution of responsibilities, profit sharing, etc.), other non-predictable challenges can also present threats to the functioning of the team and the business (e.g., long-term illness, how to deal with major business problems, departure of a team member, etc.).

**Expansion Stage**

**When entrepreneurs are successful, they may want to expand their business operations.** An entrepreneur must decide how to manage work/life balance as business dynamics change and how to use growing revenues. She must choose whether to and how much to invest in expansion, and if needed, secure financing. New employees may be hired and new responsibilities delegated. For some businesses in LMICs, expansion may mean formalization. Overall, growth presents additional risks, challenges, and opportunities, including related behavioral barriers:

- **Low aspirations:** Low aspirations refer to a lack of ambition to achieve something, which can negatively affect life outcomes and potentially drive poverty traps (Appandurai, 2004; Ray,
Entrepreneurs with low aspirations may not be interested in growing their business, which can lead them to limit their search for opportunities to expand or reinvest earnings. One study in Jakarta found that more than half of urban retail shops had no aspirations to grow beyond their current level in size, employees, or customers in the following year, and these lower aspirations were associated with lower growth and profits (Dalton, Ruschenpöhler, Uras, & Zia, 2019). Necessity entrepreneurs, in particular, may be less likely to prioritize their business and see it only as a means to an end (Fox & Sohnesen, 2012).

- **Loss aversion**: Entrepreneurs may overweight the probability of disrupting their existing operations and hence avoid taking on the risk required to expand their business or upgrade their operations. For example, risk-averse farmers may operate under “safety first” considerations and aim to achieve a target income level rather than maximize profits, which can lead them to underinvest in profitable new technologies given the small chance of loss (Streletskaia, et al., 2020).

- **Kinship contribution**: In some societies, strong social sharing norms exist and individuals who are successful may choose to (or be expected to) share their gains with others in their kinship network. Successful entrepreneurs may therefore choose to or face pressure to take money from their business to redistribute to family and friends rather than reinvesting for further growth. Tailors in Burkina Faso who were part of a kinship network invested less in their businesses than tailors not connected to kinship networks (Grimm, Hartwig, & Lay, 2017).

- **Lack of self-control**: Once entrepreneurs decide how much time and how many resources they wish to invest in growing their business, they must resist the temptation to consume those resources in the short term (Fafchamps, McKenzie, Quinn, & Woodruff, 2014). In reality, many (micro)entrepreneurs do not separate their business’s and family’s finances, which can jeopardize effective resource allocation decisions.

In sum, there can be a range of potential behavioral obstacles across the lifecycle of self-employment and business ownership (Figure 3). Recognizing which ones are the most pressing in each context is crucial to be able to address them through entrepreneurship programming.

**Figure 3: Potential behavioral barriers throughout the business lifecycle**

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3 Although sometimes known as the “kinship tax,” the term “tax” carries a judgmental connotation for describing something that may be a rational/desirable behavior for some individuals. Therefore, we have coined the phrase “kinship contribution” to describe this phenomenon in a more neutral way.
3 Behaviorally Informed Interventions

“Integrating behavioral insights offers a wider toolkit of potential responses.”

Our understanding of how behavioral science can inform entrepreneurship interventions has grown dramatically in recent years, although much work remains. Behaviorally informed interventions are those inventions that incorporate an understanding of behavioral science into how they help overcome a problem or solve a challenge. Such interventions typically seek to either motivate good decisions, facilitate taking action, or sustain behavior change. Behavioral interventions are generally categorized as either “nudges” (interventions that steer people in a “good” direction while preserving their freedom of choice) or “boosts” (strengthening individuals’ decision-making capacity) (Hertwig & Grüne-Yanoff, 2017). The effectiveness of many behaviorally informed interventions in the context of entrepreneurship is still in the early stages of validation. The following list (see Figure 4) is therefore meant to highlight promising interventions that may offer transferrable learnings based on existing evidence, rather than serve as concrete proof that inspires direct imitation. The list also includes some interventions that can be considered “conventional” as opposed to “behavioral” (e.g. matching and in-kind grants) based on evidence that they can help address specific behavioral barriers. While we organized the different interventions according to the lifecycle of the business, some interventions may be relevant to more than one stage.

Figure 4: Overview of Behaviorally Informed Entrepreneurship Interventions

<table>
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<tr>
<th>Intention Stage</th>
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<td><strong>Intention</strong></td>
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<tr>
<td><strong>Start-Up</strong></td>
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<tr>
<td><strong>Operational</strong></td>
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<td><strong>Expansion</strong></td>
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<tr>
<td>Entrepreneurial mindset training</td>
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<td>Role models</td>
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<td>Public awareness campaigns</td>
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<td>Habit formation</td>
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Intention Stage

- **Entrepreneurial mindset training to improve socio-emotional skills, including self-efficacy:** Psychologically-based entrepreneurial mindset interventions seek to foster a way of thinking that helps individuals take responsibility for their circumstances, plan ahead, be proactive and decisive, be willing to learn, and be able to overcome obstacles. An intervention in Uganda

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4 While some of these interventions directly address behavioral barriers listed in section 2, behaviorally informed interventions have not yet been implemented or studied in the context of all the behavioral barriers discussed. Additionally, some behaviorally informed interventions that are introduced in this section have been designed to respond to non-behavioral barriers. Therefore, the reader should not expect direct alignment between behaviorally based barriers from section 2 and interventions from section 3.

5 For a more detailed discussion on the distinction between behavioral and conventional interventions, see section 5.
aimed to develop an entrepreneurial mindset in undergraduate students majoring in non-business subjects who were in their final year of study. Using a learning-by-doing approach, the training not only focused on rules-of-thumb for business, but also taught soft skills including leadership, creativity, personal initiative, persuasion, and making and implementing plans (Gielnik, et al., 2015). The rate of start-ups among participants was 50 percent higher a year after training, and they had created twice as many additional jobs as business owners in the control group (Frese, Gielnik, & Mensmann, 2016). Entrepreneurial mindset training can also be linked to fostering a “growth mindset”. A growth mindset refers to an individual’s belief that talents can be developed through hard work and input from others (as opposed to being innate traits). Experience from high-income countries indicates that undergraduate students randomly assigned to a growth mindset intervention reported greater entrepreneurial self-efficacy and task persistence; their measures of self-efficacy correlated with likelihood that students would consider a career in entrepreneurship (Burnette, et al., 2020).

- **Provision of role models to encourage aspirations**: Role models can serve as social proof to inspire both potential entrepreneurs and business owners. Individuals in business training programs in Chile who were visited by successful program alumni had 15% higher household income one year later, driven by increased business participation and higher business income, as well as higher rates of formalization (Lafortune, Riutort, & Tessada, 2018). Similarly, microentrepreneurs in Mozambique who were shown an inspirational video about a successful local entrepreneur were found to have higher aspirations and better business outcomes (Batista & Seither, 2019).

- **Public awareness campaigns to improve the social status of entrepreneurship**: Government-led media campaigns may seek to raise awareness of and status of entrepreneurship. For example, in the Chinese province of Sichuan, the ILO partnered with a local TV station and the Chinese government to launch a soap opera meant to encourage migrant workers to start their own businesses. The program reached an estimated 1 million people. Telephone hotlines set up by local labor offices received 22,000 inquiries about the ILO’s Start and Improve Your Business Training during the program’s broadcast, suggesting an increased interest in opportunities for business start-up training as a result of the program (Anderson, 2008).

### Start-Up Stage

- **Simplify processes to reduce hassle factors**: Simplifying entry into self-employment can enhance the perceived feasibility of starting a business, making it more attractive. For instance, the simplification of business registration procedures or other administrative requirements is a popular strategy to enhance business entry and formalization, though the effects have typically been modest (Bruhn & McKenzie, 2018). Another strategy is “microfranchising” (see Box 4), a concept that is also used in the platform economy, though the empirical evidence on microfranchising interventions remains thin (Brudevold-Newman, Honoratı, Jakiela, & Ozier, 2017).

- **Invoking social proof to overcome lack of trust**: Access to finance and insurance is a common challenge facing aspiring entrepreneurs. Even when available, take-up may be low if individuals do not trust the provider. In Kenya, two interventions boosted take-up of seed insurance among farmers through the use of social proof. In one, receiving SMS messages referencing social proof (“200,000+ people have already registered”) were effective in encouraging uptake (Busara Center for Behavioral Economics, 2017). In a second study, having a trusted third party introduce and vouch for the insurance product led to almost double the level of uptake among farmers (Stern, 2019). Similarly, training programs or other support services can enhance their credibility by invoking social proof (incl. through testimonies by former participants).

- **Counseling to ensure learning’s immediate relevance**: Start-up counseling can have a greater impact on business performance than traditional business training due to counseling’s ‘just-in-time’ delivery and learning-by-doing approach, which help overcome individuals’ limited memories (Chrisman, McMullan, Ring, & Holt, 2012). While evidence on start-up counseling
comes mostly from OECD countries, providing guided preparation to individuals actively starting firms can likely also be effective in LMIC contexts.

- **Promote good habits**: For instance, participants in a study in Kenya were given large temporary increases in the interest rate on an individual bank account, which incentivized participants to save more and helped them accumulate more capital in the short run. By inducing new saving practices even after the incentive had expired, the intervention led to higher rates of entrepreneurship, which resulted in significantly more income and assets 2.5 to 3.5 years later (Schaner, 2018).

- **Joint liability to aid self-control**: The likelihood of owning an enterprise increased by 10 percent among Mongolian households who received group loans rather than individual loans because group-lending borrowers were more likely to invest their money and less likely to spend the loan on household consumption or make informal transfers to family and friends (Attanasio, Augsburg, De Haas, Fitzsimons, & Harmgart, 2015).

**Box 4: Microfranchising**

When uncertainty and complexity of starting a business loom large, aspiring entrepreneurs may be looking for a template on how to start and run a business as well as “proven” business models they could engage in. This is particularly true for necessity entrepreneurs who may not have the skills and capital needed to start a successful enterprise on their own, and who may not want to go through a potentially lengthy start-up process (local market research, development of business plan, etc.). One type of entrepreneurship intervention that seeks to overcome these constraints is “microfranchising”. With microfranchising, an individual can purchase a ready-made “business-in-a-box” to become a business owner. Specifically, the approach provides aspiring entrepreneurs with an established business model (e.g., delivery of food via bicycle, taxi service) and the specific capital and supply chain linkages needed to operate the business. The concept is appealing not only because it requires limited financial and human capital to get started, but also from a behavioral perspective: it provides interested individuals with a tangible vision of the expected work while reducing the uncertainty and complexity of operating a small business. On the downside, almost by definition, microfranchising reduces product/service differentiation, which can lead to market saturation and low profitability.

**Operational Stage**

- **Rules-of-thumb-based training**: Rules-of-thumb-based business training programs offer easier-to-understand heuristics and routines that may be more applicable to participants than conventional business skills training and more memorable for bandwidth-constrained participants. An example rule-of-thumb may be a physical rule to keep money in two separate drawers to distinguish business and household income. Rules-of-thumb-based trainings were impactful in the Dominican Republic, where they led to improvements in business practices (Drexler, Fischer, & Schoar, 2014), and Ecuador, with the later showing an increase in daily profits by 8 percent a year later (Arráiz, Bhanot, & Calero, 2019). The effects of the trainings were particularly pronounced among women and those with lower cognitive scores, making them a particularly promising option for necessity entrepreneurs (McKenzie, 2020).

- **Personalized support to encourage implementation**: External assistance can mitigate a lack of personal network and support the adoption of good (business) behaviors. A handbook of locally tailored best practices was distributed to urban retail shop owners in Jakarta. Although receiving the handbook alone had no impact on business practices, if the owner also received two thirty-minute shop visits by trained facilitators to help implement some of the best practices in the handbook, the resulting improvement in itemizing revenues and costs, anticipating budgetary needs, adjusting stocks, soliciting feedback, and making joint decisions led to a 35 percent increase in profits (Dalton, Rüschenpöhler, Uras, & Zia, 2019). Similarly, mentorship has been shown to have a positive impact on entrepreneurs, particularly in cases where mentees can identify with the mentors (e.g., through membership in the same
community, same gender, etc.). For example, profits increased by 20 percent more among young microenterprises that received mentorship compared to conventional business training (Brooks, Donovan, & Johnson, 2018). Providing coaching or consulting to small groups, similar to agricultural extension, has also shown promise as a cost-effective strategy to improve business practices (Iacovone, Maloney, & McKenzie, 2019).

- **Drawing attention to increase saliencé**: Busy or pre-occupied entrepreneurs may fail to notice their own mistakes or opportunities to improve their business operations. By calling the entrepreneur’s attention to a particular issue, the entrepreneur can focus more of his limited bandwidth on that issue and may find room for improvement. For example, after seaweed farmers were presented with summaries of data from their plots showing the relationship between pod size as an input and yield, they changed their behavior to account for pod size as input, leading to efficiency gains (Hanna, Mullainathan, & Schwartzstein, 2014). Similarly, once small retailers were informed of the importance of keeping correct change to allow them to make sales to customers with larger bills, profits increased (Beaman, Magruder, & Robinson, 2014). See Box 5 for an additional example.

- **Reminders to mitigate limited attention and memory.** Simple reminders can help entrepreneurs adopt good business practices and achieve their financial management goals, such as accumulating savings to make future investments. For example, in Ethiopia, a poster reminding shop owners of good business practices led to increased investments and profits (Giera & Tekle, 2017). Similarly, sending reminder messages has been shown to increase saving rates in several countries (Karlan, McConnell, Mullainathan, & Zinman, 2014; Abebe, Tekle, & Mano, 2016).

- **Psychosocial support and soft-skills training to strengthen mental health and socio-emotional skills:** Interventions promoting mental health can help entrepreneurs overcome behavioral barriers. For instance, Cognitive Behavioral Therapy (CBT) has been proven to help individuals change patterns of automatic thinking and addresses stress and cognitive resource depletion to restore emotional well-being. Entrepreneurs in Pakistan who underwent five-week group CBT reduced the intensity and prevalence of symptoms of anxiety and depression and had higher levels of well-being. When combined with a cash grant, recipients of CBT had 50 percent lower odds of mental health problems compared with those who only received a grant (Saraf, Rahman, & Jamison, 2019).\(^6\) Similarly, targeted soft-skills training can include elements to improve self-esteem, emotion regulation, conflict resolution, communication, self-management, etc. to help entrepreneurs manage their business relationships and operations (Youth Business International, 2019). See also Box 6.

- **Modes of delivery that minimize hassle factors:** Designing interventions with an eye to reducing hassle can improve uptake. For example, a financial heuristics-based training was adapted for delivery over mobile phone (using weekly voice messages) in India and the Philippines so that entrepreneurs would not need to find time to attend in-person trainings. Feedback from participants was used to adapt the program to make it more concise, engaging, and actionable. Results suggest that targeted microentrepreneurs were highly engaged with the training messages, translating into changes in several business practices (ideas42, 2018).

- **Expanding networks:** Entrepreneurs gain from having a range of contacts through professional networks. Activities that help expand networks can range from informal to formal, including events and supporting membership in business associations. For instance, getting business owners to meet with peers has been shown to help in diffusing information and creating business partnerships (Fafchamps & Quinn, 2016; Cai & Szeidl, 2018). Similarly, membership in savings groups is associated with successful business outcomes, partially because group membership facilitates access to soft loans as well as allowing entrepreneurs to share ideas, experiences, and resources.

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\(^6\) Salience refers to the quality of being particularly noticeable or important.

\(^7\) CBT may also be tailored to specific audiences that face distinct behavioral challenges. For example, while not targeted at entrepreneurs, a study with young men in Liberia found that they reduced their anti-social behaviors after participating in CBT that focused on reducing present-bias, improving self-control, developing perseverance, and increasing goal-orientation (Blattman, Jamison, & Sheridan, 2017).
access other businesses and customers, and receive encouragement (Youth Business International, 2016). Small business owners from disadvantaged backgrounds are particularly likely to benefit from interventions which broaden their networks (Chi & Nordman, 2014).

- **Commitment devices to decrease present bias**: Present-biased individuals can benefit from taking advantage of commitment devices (Bauer, Chytilová, & Morduch, 2012). For example, farmers who recognized that they may not save enough money to purchase fertilizer in the future saw value in a commitment device (in this case a small, time-limited discount) that allowed them to purchase future fertilizer in the present (Duflo, Kremer, & Robinson, 2011).

**Box 5: Drawing Attention to Inventories to Increase Profitability**

Small business owners in developing countries may leave profitable investments unexploited due to a failure to notice. For example, many retail shops appear to underinvest in inventory — a problem given that adequate levels of inventories are associated with higher profits. Business owners may fail to take advantage of bulk discounts from suppliers while also experiencing stocking-out of certain items. This ‘failure to notice’ has been documented in multiple contexts and successfully addressed with different interventions, including information provision, coaching, or mentoring (Dalton, Rüschepöhler, Uras, & Zia, 2019; Brooks, Donovan, & Johnson, 2018). In an intervention in Kenya, business owners were walked through a questionnaire in which they calculated the additional costs and benefits of holding more inventory, which led them to realize that they were not stocking optimally. Without providing technical assistance or working capital, this simple intervention led to an increase in inventory levels by approximately 20 percent (Kremer, Lee, Robinson, & Rostapshov, 2016).

**Box 6: Improving the Functioning of Group-Based Businesses**

Many businesses, from agricultural cooperatives to technology start-ups, are run by groups rather than by individuals. Given the range of challenges that arise from working in groups (Box 3), entrepreneurship support programs must often help entrepreneurs prevent and solve conflicts that could jeopardize a jointly run business. For instance, this can include building awareness among the team members of the factors that can easily lead to conflict down the line. It may also involve helping teams reveal their individual priorities and preferences, build trust, reconcile differences, and effectively work together (including how to build consensus as a group). Importantly, communication skills and decision-making processes may need to be strengthened to minimize the likelihood of frustrations within the group. Clear and transparent contract clauses among business associates can also be important in managing expectations and defining upfront what will happen in case of specific scenarios (e.g., major disagreements, departure of business partner, etc.). While some of these points may already be addressed as part of trainings during the start-up process, supporting effective functioning of the group can also be an important component for coaching and mentoring efforts targeted at existing businesses.

**Expansion Stage**

- **Personal initiative training**: Psychologically-based personal initiative training seeks to develop key behaviors associated with a proactive, entrepreneurial mindset. Business owners in Togo who took part in 36 hours of personal initiative training (which taught self-starting behavior, innovation, identifying and exploiting new opportunities, goal setting, planning and feed-back cycles, and overcoming obstacles) and received 4 follow-up visits from a trainer had higher monthly sales and profits than participants of a traditional business training, among other positive indicators of improved business practices (Campos, et al., 2017). A training course in Jamaica tested the addition of a soft-skills component focused on developing grit to a personal initiative curriculum. The added soft skills treatment led to improvements in sales and profits in the short run for male entrepreneurs (Ubfal, et al., 2019). That said, positive impacts of such trainings seem to strongly depend on trainer characteristics (Alibhai, et al., 2019; Wolf, 2019).
• **Peer pressure:** Business owners in Mozambique were given an anonymized and ranked list of local vendors with their own position highlighted to show their relative performance compared to their peers. Seeing their rankings led low-performing firm owners to increase their effort and led to positive improvements in sales and profits. The impact on sales and profits was strongest when the top seller was female (Seither, 2019).

• **Grant matching to overcome loss aversion and present bias:** Grant matching lowers the price of investment, theoretically helping firms overcome risk aversion. Applying to a grant-matching program also may draw entrepreneurs’ attention to a range of different potential services on offer and encourage them to consider which may be most profitable. Application deadlines for grant schemes may assist in overcoming present bias (Campos, Coville, Fernandes, Goldstein, & McKenzie, 2012).

• **In-kind grants to overcome self-control challenges:** In a Ghanaian experiment, receipt of in-kind grants of equipment or materials rather than cash grants generated higher returns, as the in-kind grants were more likely to remain in the business while the cash grants were often used for household consumption. Only individuals with higher levels of self-control were able to obtain positive outcomes from cash grants. Therefore, in contexts where self-control may be a challenge, in-kind grants may be more appropriate for supporting business investment (although even then efficiency considerations between in-kind and cash grants must be taken into account) (Fafchamps, McKenzie, Quinn, & Woodruff, 2014).

In practice, practitioners need to prioritize the most relevant behaviorally informed interventions based on a good understanding of their target groups and the main barriers they face. While some approaches may be made an integral part of program design, others may be subject to experimentation. Many behavioral principles can be integrated relatively easily without complicating program design and implementation (Box 7).

**Box 7: Improving Income Opportunities for Youth in Djibouti**

Between 2015 and 2019 the PROPEJA entrepreneurship project in Djibouti administered by the World Bank sought to generate self-employment opportunities for youth in poor areas of the country. Key activities included: 1) entrepreneurship training to help youth prepare a mini business plan; 2) Cash grants for small groups (of 3 or more members) whose business plans were validated by a committee, and 3) Follow-up coaching for approx. 6 months to assist during the start-up phase. While the project was not intentionally applying behavioral science principles, several design elements reflected a behavioral lens, such as:

- **Reduce hassle:** Instead of making participants travel to training sites, trainings took place inside target communities. This minimized time and travel constraints for participants.
- **Leverage peers:** Trainings and coaching were delivered by a team of two youth leaders (male and female) from the respective target communities. The peer training was meant to facilitate contact and increase trust with the target group.
- **Expand networks:** Training groups were mixed in terms of gender and skill level to foster social connections and solidarity across subgroups of youth.
- **Improve soft skills:** Training modules also covered topics like self-confidence, communication, teamwork, and conflict resolution in order to foster the interpersonal skills needed to run a business.
- **Consider limited attention and memory:** Contents for training and coaching were condensed to make sure they are immediately relevant, i.e., training contents focused on direct inputs for the mini business-plans while coaching sessions focused on aspects of setting up and running the business.
- **Minimize restrictions:** To lower the burden on participants, the program used simple eligibility criteria, allowed participants to pick group members freely (incl. from outside the program), and transferred the cash grants on bank accounts at participants’ disposal.
4 Considerations for Female Entrepreneurs

“To understand the performance of women-led businesses, we need to understand how interconnected women’s business and family lives are.”

Female entrepreneurs face gender-specific obstacles and stand to gain significantly from the application of a behavioral lens. Female-run firms often underperform their male counterparts. Indeed, women are often less likely to start a business, more likely to be necessity-driven entrepreneurs, tend to have lower earnings and growth expectations, and have higher rates of exit from entrepreneurship than men (Kelley, et al., 2017; Jayachandran, 2020). Many entrepreneurship promotion interventions that have had a positive impact on male entrepreneurs’ business outcomes have had more muted or no impact for women (Fiala, 2018; Berge, Bjorvatn, & Tungodden, 2015). A growing amount of work is therefore concerned with understanding women-specific constraints and promising interventions to foster women’s economic empowerment (Buvinic & O’Donnell, 2019; Carranza, Dhakal, & Love, 2018; World Bank, 2018). Overall, the evidence suggests that training or finance alone are typically not sufficient for women entrepreneurs, and that — given the multiple barriers they face — bundled interventions are needed (Revenga & Dooley, 2020). As one report puts it: “[...] to truly achieve transformative change, [...] programs need to address deeper psychological and social constraints facing women” (Siba, 2019). Against this background, identifying the behavioral barriers driving differences in performance and deploying behaviorally informed interventions that can address gender barriers has the potential to deliver strong gains to female entrepreneurs.

Behavioral Barriers for Female Entrepreneurs

Some behavioral barriers facing female entrepreneurs represent more pronounced versions of barriers facing all entrepreneurs, while other barriers represent distinct challenges unique to women. Lower income among female entrepreneurs can largely be explained by differences in their choice of sector, differences in use of capital and labor inputs, differences in business practices (including formalization and sophistication), and differences in women’s willingness to compete (Campos & Gassier, 2017). Besides conventional explanations in terms of access to education and capital, behavioral barriers can also drive these differences. For example, to understand the performance of women-led businesses, we need to understand how interconnected women’s business and family lives are. The time and attention required to grow a business may detract from time spent at home, which might not seem worthwhile. While there may be benefits for the business or for future savings prospects, these overall gains may not merit changing the life of the business owner and her family, so she may choose to decrease her personal (or financial) investment in the business, which will accordingly be less productive than it may have otherwise been (Duflo, 2012). Behavioral barriers facing female entrepreneurs include:

- **Social Norms:** Women typically make decisions about whether to become entrepreneurs and what sector to enter based on normal and acceptable practice in their community, as well as their own beliefs. Moreover, women face added complexity in balancing domestic and economic roles in societies that define women primarily through their family and household responsibilities (Campos & Gassier, 2017). Women also have a higher propensity to spend on the household, which may lead them to use business funds for household expenses (Fafchamps, McKenzie, Quinn, & Woodruff, 2014). Their attention to household needs may also make them more risk averse to business spending (Campos & Gassier, 2017).
- **Time constraints:** Women allocate significantly more time to housework and carework, which may limit time spent on entrepreneurial activity and hamper business performance (Delecourt & Fitzpatrick, 2019). Women may also lack the flexibility to organize their time, for example if they stay home during certain times of the day that would be most beneficial to their business.
Female entrepreneurs who

Household decision-making process: Household decision-making dynamics may limit the flow of funding to female-owned businesses, especially when women have relatively less “bargaining power”. For instance, in households with multiple enterprises, access to microfinance for women didn’t increase profits for women-owned businesses, even though it did increase household profits; the money was simply invested in the business with the higher return — the man’s (Bernhardt, Field, Pande, & Rigol, 2017). Female entrepreneurs who receive external grants may receive less money from their husbands (a “crowding-out” effect) (Berge, Bjorvatn, & Tungodden, 2015). Alternatively, women may be excluded from the decision-making process altogether (Box 8).

Stronger impact of kinship contribution: Women in some societies are particularly likely to face significant (and potentially unwanted) pressure to share income with family members. Some studies have shown that women are willing to forgo (sometimes considerable) income to hide investment or earnings from family (Jakiela & Ozier, 2016; Berge, Bjorvatn, & Tungodden, 2015). Deception may pay: one study finds that women who hide money from their spouses have better economic outcomes (Fiala, 2017).

Smaller and more homogenous networks: Because they tend to have smaller and more homogenous networks, female entrepreneurs often face more difficulties receiving encouragement, identifying opportunities, validating their ideas, accessing funds, and establishing attractive business relations (e.g., with clients and suppliers). They may also not realize that profits in their sectors are lower than in male-dominated sectors, thus preventing them from transitioning to higher earning industries (Campos & Gassier, 2017).

Lack of self-confidence: Women may underestimate their entrepreneurial capabilities and fear failure as business owners to a greater extent than men (Alibhai, et al., 2019). Moreover, lower earnings among women entrepreneurs may be due to the fact that women are less likely to negotiate (e.g., when buying or selling products) — similar to women in wage-employment who are less likely to negotiate salaries than men (Leibbrandt & List, 2012).

Lower aspirations: Women may have lower aspirations to grow their businesses in terms of sales, customers, or employees compared to their male counterparts (Dalton, Ruschenpohler, & Zia, 2018), in part because of competing family responsibilities.

Identity: Entrepreneurship is often characterized by stereotypically masculine traits (aggression, calculation, risk-taking) which some women may find challenging to reconcile with personal identities (Baughn, Chua, & Neupert, 2006) or cultural norms. Some evidence suggests that women are less willing to compete than men (Berge, Bjorvatn, & Tungodden, 2015), which may negatively affect business entry and growth.

Discrimination: Business, family, or customary law may limit women’s control over property and therefore their ability to control and invest in their business (World Bank Group, 2020). Women may also face discrimination from financial institutions, for example by being less likely to receive a loan (Alibhai, et al., 2019). Even when discrimination is not explicit, exclusive language in outreach materials or implicit bias in screening women’s applications to funding or other support can put women at disadvantage (ideas42, 2020).

Box 8: The Household Decision-Making Process

Some household decision-making structures go so far as to exclude women. Microfinance clients in Pakistan were offered an eight-day business training course and access to a loan lottery where participants could borrow up to 7 times the average loan size. Although both male and female participants showed increased business knowledge after training, improvements in business practices, household expenditures, and rates of business survival only occurred among male participants. About 40 percent of female entrepreneurs reported that their male spouses were responsible for all of the business decisions and on average, women spent less time in managerial decision-making, suggesting lower decision-making power among women. Among women who won access to loans, business creation only increased when the women’s spouse or other male member of the household used the proceeds to start a business (Giné & Mansuri, 2014).
Behaviorally Informed Interventions for Female Entrepreneurs

Behaviorally informed interventions have been particularly effective in addressing the behavioral barriers that face women. While traditional business training or cash grants have often had little to no impact on female entrepreneurs, behaviorally informed interventions such as personal initiative trainings have shown a demonstrably greater impact on women than men, although this is perhaps driven by women’s comparatively lower starting point (Campos, et al., 2017). Successful behaviorally informed interventions targeting female entrepreneurs include (Figure 5):

- **Collapsing social norms:** In interviews with young Saudi Arabian men, 87 percent privately supported female labor force participation but 75 percent underestimated their peers’ level of support. When they learned the true level of societal support for female labor force participation, they were 57 percent more likely to support their wives joining the labor force and, three months later, their wives were more likely to have applied for a job outside the home (Bursztyn, González, & Yanagizawa-Drott, 2018).

- **Empowerment training:** Lack of agency, be it driven by the household decision-making process, lack of self-confidence, or the other behavioral barriers discussed above, can be addressed through empowerment of aspiring female entrepreneurs. Empowerment training in Uganda increased adolescent girls’ self-perceived ability to run a small business across ten different entrepreneurial dimensions and doubled their likelihood of being self-employed two years after treatment (Bandiera, et al., 2020). Other interventions are examining how to improve cooperation among couples to revise existing household power structures.

- **Provision of role models:** Screening 4 videos over the course of a year at women’s HIV clinics in Uganda, which featured role models telling their personal stories of challenges and rewards from starting a business, led to a significant increase in the probability of starting a business and higher incomes among viewers (Lubega, Nakakawa, Narciso, Newman, & Kityo, 2017).

- **Mentorship:** Although standard business training alone does typically not seem to have a strong impact on female business outcomes, more evidence supports the impact of mentorship. For instance, mentorship led to an increase in profits by 20 percent among young female-owned microenterprises due to the positive impact mentors had on helping mentees solve problems (Brooks, Donovan, & Johnson, 2018). Individualized coaching of female entrepreneurs for the year after business training also had a positive impact on business practices in Tanzania, particularly among experienced entrepreneurs (9+ years), including higher likelihood of paying herself a wage and greater likelihood of formalization (Bardasi, Gassier, Goldstein, & Holla, 2017).

- **Networking and peer support:** Growing women’s networks can take many forms. For instance, economic self-help groups have shown to improve women’s economic and social empowerment, by improving social networks and solidarity with peers (Brody, et al., 2015). Facilitating access to male networks is also essential. For instance, evidence suggests that a more heterogenous network, including male role models or co-ownership with husbands, encourages female crossover into higher earning (male-dominated) industries (Campos & Gassier, 2017). See also Box 9. In addition, peer-to-peer approaches may be particularly suitable for women entrepreneurs. Clients from a women’s bank in India were invited to attend a two-day business counseling program to learn basic financial literacy and business skills, hear from local role models, and set goals. Those women who were invited to attend with a friend had a higher propensity to borrow (and use their loan for business purposes) and reported higher volumes of business, household incomes, and expenditures four months later. They were also less likely to report their occupation as “housewife.” The impact was particularly pronounced among women subject to constraining social norms (Field, Jayachandran, Pande, & Rigol, 2016).

- **Separate bank accounts:** A separation of business from personal or family bank accounts may lead to improved organization of the entrepreneur’s finances, prioritization of business investments, and protection from kinship contribution. In a study in Uganda, disbursing microfinance loans to mobile money accounts instead of as cash led to 15% higher business
profits and 11% higher levels of business capital among women, with the largest benefits accruing to women who experienced the greatest pressure to share money with others in the household (Riley, 2020).

Figure 5: Promising Behaviorally Informed Interventions Targeting Women

Box 9: Helping women entrepreneurs enter male-dominated sectors

One of the reasons that women entrepreneurs have lower earnings than men is that they more commonly operate in low value-added industries such as retail trade or garment production. Therefore, one policy option is to help (aspiring) women entrepreneurs enter higher productivity, male-dominated, sectors. In Uganda, a study of “crossover entrepreneurs,” i.e., women who own businesses in male dominated industries, found that information about earnings opportunities in male-dominated areas, as well as influence from male role models and exposure to male-dominated sectors from family and friends, were key determinants to help women enter male-dominated fields (Campos, Goldstein, McGorman, Boudet, & Pimhidzai, 2015). Hence, in order to support women in entering male-dominated industries the authors propose (i) providing information about earning opportunities early in life to inform education and training decisions, (ii) connecting women to work-based learning opportunities (e.g., apprenticeships) in male-dominated sectors, and (iii) facilitating support by a male mentor to overcome the norms that fuel occupational segregation. Additional strategies, such as leveraging female role models and reducing hassle of obtaining training in a male-dominated field, have also been applied in the context of the Liberia Youth Opportunities Project (ideas42 & World Bank, 2021).
5 Integrating Behavioral Science into Entrepreneurship Interventions

“The behavioral science approach strongly values problem diagnosis and iterative learning.”

Incorporating a behavioral science lens into entrepreneurship interventions provides a new perspective for responding to the challenges facing LMIC entrepreneurs. Conventional barriers facing entrepreneurs — lack of skills, lack of funding, limited access to markets, poor infrastructure, etc. — will continue to require the attention of policymakers and practitioners. However, integrating behavioral insights encourages a deeper understanding of the target group and the realities and barriers they face and in turn offers a wider toolkit of potential responses. Designing interventions based on a strong understanding of local context and entrepreneurs’ behavioral tendencies would represent a transformative shift for many programs that often struggle to provide services to a population of (prospective) entrepreneurs they barely understand.

The behavioral science approach strongly values problem diagnosis and iterative learning, as well as flexibility in experimenting with different designs to ensure the best possible intervention. It is generally viewed as a six-stage process (Figure 6).

Figure 6: Process for Applying Behavioral Insights

Source: Hempel, 2020

Step 1. Prepare
Because applying a behavioral science lens is new to many stakeholders, it is important to build a common understanding of the process. Stakeholders must be educated on the key concepts and benefits, decision-makers must be brought on board, and exploratory dialogues can help identify potential problems that could benefit from a behavioral perspective.

Step 2. Define
Stakeholders should define an (un)desirable behavior which they wish to address. Regarding entrepreneurship, this may mean either specifying a problem facing entrepreneurs (e.g., low status of entrepreneurship, inability to secure a loan), identifying an undesirable behavior among entrepreneurs...
that we wish to reduce (e.g., underpricing their products), or pointing to a desirable entrepreneurial behavior we wish to promote (e.g., self-confidence, use of business best practices, formalization), any of which could be addressed through a subsequent intervention. Alternatively, this stage may be used to define a problem in existing program implementation — for instance, low take-up of business trainings. Definition of the problem is a key step in the behavioral process and should not be overlooked: don’t try to solve a problem where there isn’t one. Narrowing down the problem as much as possible will help with identifying exactly what behavior should be influenced.

**Step 3. Diagnosis**

*Once a problem is identified, the next step is to identify the root of the problem.* Practitioners are often looking for quick answers and want to know what works to address a particular problem (e.g., what works to increase take-up rates?). However, potential solutions can only work if one gets the diagnosis right. While “traditional” barriers such as a lack of skill or a lack of capital may be the root of certain problems, behavioral bottlenecks may also be at play in many of the entrepreneurs’ decisions (see section 2). Importantly, a similar problem may lead to a different diagnosis in a different context, or there may be multiple diagnoses underlying the same problem (see Table 1).

**Table 1: Illustrative Examples of Defining, Diagnosis, and Designing to a Problem**

<table>
<thead>
<tr>
<th>Sample Problem Definition</th>
<th>Sample Diagnosis</th>
<th>Potential Design Considerations</th>
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</table>
| Entrepreneurs are failing to invest in growing their businesses | Entrepreneurs lack the mental bandwidth to consider investment given high current levels of stress on their time and attention. | • Rules-of-thumb/heuristics-based training  
• Drawing attention or reminders to overcome limited memory  
• Cognitive behavioral therapy to aid mental health |
|                          | Entrepreneurs are present-biased (and do not realize it), so they fail to save money for investment. | • Commitment devices to decrease present bias  
• Promote good (saving) habits through temporary incentives  
• Provide ranking as social proof to aid self-control |
|                          | Entrepreneurs are experiencing pressure to contribute money to kin instead of reinvesting in their businesses. | • Separate bank accounts for business versus household savings  
• In-kind grants to reduce investment diversion  
• Joint liability to aid self-control in investing |
|                          | Entrepreneurs lack self-efficacy.                                               | • Personal initiative training to develop self-efficacy  
• Entrepreneurial mindset intervention to develop self-efficacy |
|                          | Entrepreneurs have low aspirations and do not want to grow their businesses.     | • Provision of role models to encourage aspirations  
• Personal initiative training to develop aspirations |
| Entrepreneurs are not attending business trainings they signed up for | The hassle is too great (e.g., takes too much time to travel to a training location). | • Trainings in small groups to create social norms around attendance  
• Mobile training delivery to reduce hassle  
• Consultations on most convenient training times  
• Training or mentoring on business premises |
|                          | Entrepreneurs do not trust their business in the hands of employees while they are away. | • Consultations on most convenient training times  
• Training or mentoring on business premises  
• Mobile training delivery to avoid in-person attendance |
|                          | Social norms prevent training attendance.                                        | • Collapse social norms  
• Attend training with a peer  
• Mobile training delivery to avoid in-person attendance |
|                          | Entrepreneurs are over-confident; they decide they “know best” and do not need training. | • Provide ranking as social proof to demonstrate current standing  
• Introduce role models or peers who have completed trainings |
Behavioral diagnostics can be integrated in different ways. Diagnosis of the problem is likely to involve background research, engaging with stakeholders, and data collection on the ground (e.g., through ethnographic, qualitative, and/or small sample quantitative research). In some cases it may be possible to piggyback on baseline data collection or the beneficiary selection process (such as interviews during business plan competitions) to gather behavioral information. Moreover, data collection and analysis focused on behavioral issues can be integrated into assessments that are typically part of entrepreneurship programs, such as:

- **Entrepreneurial ecosystem analysis**: Mapping the institutions, actors, and culture in entrepreneurs’ environments helps identify the gaps in service provision facing entrepreneurs. This type of analysis lends itself well to considering the role of social thinking, for instance in terms of trust towards relevant institutions and service providers, as well as the ease of access to available services (hassle factors).
- **Target group analysis**: Data collection aimed at understanding the socioeconomic characteristics and skills of the target population can be a good entry point for asking questions around existing behaviors, aspirations, and barriers, which may reveal behavioral bottlenecks. For instance, questions can be added to capture entrepreneurs’ mental resources, time constraints, perceptions of self, social influences, mental models, etc. that might be holding back participants.
- **Value chain analysis**: A behavioral perspective can be added when analyzing the social dimension of the value chain, i.e., how people interact with the value chain in terms of employment. Beyond the traditional questions around skill supply and demand, working conditions, and wages, analysis can also look at the different types of entrepreneurs (e.g., producers, processing, traders, etc.) and the behavioral factors that may hamper business entry and performance.

In analyzing the data collected, one can draw on various tools commonly applied in behavioral science:

- **Personas**: the representation of the needs, thoughts, and goals of different types of target users that can serve as a reference throughout program design.
- **User journey mapping**: visual representations of the user experience highlighting key decision steps and touch points with other stakeholders (potentially including interaction of behaviors by different stakeholders).
- **Behavioral analysis**: analysis indicating the target group’s necessary capabilities, motivators, barriers, etc., along the different steps of the user journey.

**A more nuanced diagnosis of behavioral barriers will also provide a better understanding of the target group**, and hence help with segmentation and targeting of specific sub-groups of entrepreneurs. Indeed, many entrepreneurship programs have overly broad target groups and do not recognize the diversity of their participants. Better diagnosis could therefore help interventions focus on specific segments of entrepreneurs or tailor services according to the specific characteristics and needs of different groups of participants.

**Step 4. Design**

*After diagnosing the underlying cause of a problem, one must select the most adequate response.* A first step is listing potential interventions, after which each option can be assessed based on expected impact, feasibility, and cost. Certain intervention options may already have strong supporting evidence, making them an easy choice, while for other, less proven approaches, systematic testing (see next stage) to discover what works best within the local context will be key (e.g., is a video of a local role model sufficient, should it be an in-person visit, or a mentorship program?). Table 1, above, highlights how different diagnoses could spur consideration of different design responses. The potential designs listed in the table are largely based off the behaviorally informed interventions discussed in Section 3 and 4, but this list is not exhaustive — instead, it is a starting point meant to

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8 When using a questionnaire to understand potential behavioral barriers facing entrepreneurs, be sure to leave it broad enough to allow for discovery of new behavioral barriers you may not have anticipated.
provoking thought about the wide range of potential designs to consider and explore what may be appropriate (or not!) in a given context. Once a proposed intervention has been identified, a first prototype can be prepared, and initial feedback can be collected.

**Potential solutions may be behaviorally based interventions or conventional (non-behavioral) interventions.** Non-behavioral challenges to entrepreneurs (e.g., lack of funding) may be addressed by behaviorally informed solutions (e.g., separate savings accounts with temporary incentive interest rates to increase savings), just as behavioral challenges (e.g., discrimination) may be addressed by non-behavioral solutions (e.g., regulatory responses) (see Figure 7).

*Figure 7: Considering Conventional vs. Behavioral Responses*

<table>
<thead>
<tr>
<th>Bottleneck</th>
<th>Conventional</th>
<th>Behavioral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>Lack of business skills</td>
<td>Low aspirations</td>
</tr>
<tr>
<td></td>
<td>Conventional business skills training</td>
<td>Financial incentives</td>
</tr>
<tr>
<td></td>
<td>Lack of business skills</td>
<td>Low aspirations</td>
</tr>
<tr>
<td></td>
<td>Rules-of-thumb business skills training</td>
<td>Role models</td>
</tr>
</tbody>
</table>

*Source: Based on interview with Julian Jamison, Professor of Economics, University of Exeter*

**Step 5. Test**

After one or a range of potential responses is chosen, the intervention should be formally tested on a small sample before implementing it at larger scale. After all, it is still generally not well understood which interventions (behavioral or conventional) work most effectively for which subgroups of entrepreneurs under what circumstances. Initial user testing makes sure programs are meeting local needs, including communicating with effective language and in an appropriate format for the specific context. Hearing from a variety of different sources in the target population can better ensure a good understanding of a range of viewpoints. Testing with a small pilot can also help identify behavioral bottlenecks in implementation. After early trials have been found successful, the intervention can be administered to a larger number of participants, accompanied by robust (counterfactual) evaluation to measure the impact of the intervention.

**Traditional monitoring and evaluation processes can also be harnessed to better understand the presence of any behavioral challenges.** Even on-going programs that are not actively seeking to address behaviorally based challenges or provide behaviorally based solutions can explore behavioral issues through their Monitoring and Evaluation. Following up with the question of “why” — Why didn’t individuals attend the training? Why did firms die? Why were these entrepreneurs successful? — provides an opportunity to discover the influence of behavioral factors on an entrepreneurship program, potentially validating behavioral challenges or informing the policy dialogue as to what issues are most pressing.9

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9 Many studies fail to analyze why certain effects did or did not occur, which makes it harder to extrapolate lessons from an individual intervention and consider the external validity of results (Grimm & Paffhausen, 2015).
Step 6. Learn

Finally, the results from the testing stage should be translated into concrete learning to inform subsequent programming. This typically includes taking stock of the results (e.g., which version of the intervention was most effective?), documenting findings, potentially identifying additional behavioral bottlenecks based on the research conducted, as well exploring avenues to scale or replicate the intervention (if it worked).

Even projects that have not previously incorporated behavioral approaches can apply a behavioral lens to their learning process. Examining past results with a critical eye and looking for behavioral nuances in existing Monitoring or Evaluation reports can help identify potential behavioral issues for future consideration in programming and research.

6 Learning Agenda

“Practitioners and researchers must continue to invest in building the evidence base for behavioral barriers and behaviorally informed interventions in the field of entrepreneurship.”

While the evidence base on behavioral barriers and interventions in the context of self-employment and small firms has grown rapidly in recent years, a significant learning agenda remains. The evidence summarized in this report leaves no doubt about the importance of applying behavioral science to entrepreneurship promotion efforts. However, it is still an emerging area of research and practice with many open questions. Practitioners and researchers must continue to invest in building the evidence base for behavioral barriers and behaviorally informed interventions in the field of entrepreneurship. More evidence is needed:

Related to diagnostics

- **Range of barriers**: What is the true extent of behavioral barriers facing entrepreneurs? While this note has highlighted many behavioral challenges supported by existing research, there are many other potential barriers that have been observed anecdotally by practitioners and that have received no systematic study (see Appendix 1 for a list of potential barriers, including those beyond the scope of the main note). Thus, more research is needed to identify and confirm further behavioral barriers.

- **Prioritization of barriers**: Which behavioral barriers facing entrepreneurs are the most important? Tackling behavioral barriers that function as binding constraints on entrepreneurs’ prospects is a more pressing challenge than addressing behavioral barriers that have comparatively minor impacts on productivity or profits. Because examining and addressing all possible behavioral barriers is time and resource-consuming (and therefore not realistic for most practitioners), future research should identify those constraints that are most likely to be present in different contexts. This would provide practitioners with a more digestible list of key behavioral barriers to tackle.

- **Constraints for different subgroups of entrepreneurs**: How do behavioral barriers vary among different subgroups of entrepreneurs? This understanding is key to appropriately targeting different types of interventions to different types of entrepreneurs. While this note has highlighted some of the specific challenges facing female entrepreneurs, more work is needed to understand the behavioral challenges facing youth, ethnic minority, migrant, and refugee entrepreneurs, among others. Such target groups stand to make outsized gains from behaviorally minded programming.
Related to measuring effectiveness

- **Impact and replicability**: While the number of evidence-based behavioral interventions has grown in recent years, there is still ample room for new intervention strategies to be rigorously tested, including those that have shown promise in OECD countries (Wu & Broughton, 2019). Moreover, many behaviorally informed interventions to date have only been tested through a limited number of rigorous evaluations, in specific populations and circumstances, and some have struggled with replicability across different contexts. Hence, more research is needed to (i) confirm which interventions are likely to consistently yield strong impacts and (ii) identify the key requirements (and the contexts surrounding the intervention) that make them effective.

- **Pathways of impact**: How do interventions contribute to behavior change among entrepreneurs, e.g., what channels do these interventions work through? Do the psychological pathways vary by subgroup (necessity vs. opportunity entrepreneurs, men vs. women)? For example, does personal initiative training have more impact for female entrepreneurs because it is breaking down gender roles or social norms — or is it simply that female entrepreneurs tend to have fewer socioemotional skills to begin with, and therefore see higher marginal returns to additional training?

- **Long-term impacts**: Do the impacts of behavioral intervention persist over time? Because so many behaviorally minded interventions have only been developed and tested in recent years, evidence is scant for longer run impacts. More longer-term follow-ups that trace impacts on firm performance and survival over time spans of at least 4-5 years are needed.

- **Cost-effectiveness**: How cost-effective can certain behaviorally informed interventions be? Many interventions currently incorporate behaviorally based interventions as one of a variety of components — for example, personal initiative training and provision of role models alongside business skills training and a grant. If components of the intervention are removed, lowering the cost of the intervention, will the intervention remain effective? Not enough evidence exists on the marginal benefit of different (behavioral) interventions to best understand the economic returns on different types of interventions. Low-cost, high-impact interventions are more likely to be replicated and scaled.

Non-behavioral research and interventions also have a role to play in answering these questions. By putting greater emphasis on systematically asking “why” questions during Monitoring and Evaluation and impact evaluation studies and subsequently documenting any findings, non-behavioral research can contribute to an improved understanding of entrepreneurship dynamics and highlight potential issues that could benefit from a behavioral science lens. For instance, if certain reasons are cited on why people are dropping out of a program or why firms are dying, then this may be an entry point for a behavioral diagnostic and intervention.

7 Conclusions

“Behavioral insights allow practitioners to better diagnose and respond to many of the challenges commonly faced in the context of entrepreneurship programming.”

A behavioral science lens helps us better understand the complex challenges facing LMIC entrepreneurs. Starting, running, and growing a business is a complex endeavor involving significant uncertainty, challenges, and frustrations. Entrepreneurs, regardless of whether they are driven by necessity or opportunity, must make many decisions daily, which makes them susceptible to numerous
psychological and social influences. Behavioral science, i.e., the systematic analysis of human behavior and decision-making, can therefore provide a more complete picture of the potential barriers to firm entry and performance, thereby suggesting additional avenues for intervention. Beyond the conventional areas of focus for entrepreneurship promotion — such as business skills, access to finance, access to markets, and a conducive business environment — behavioral science highlights that entrepreneurs’ decision-making processes (driven by available mental resources, automatic thinking, social thinking, and existing mental models) must also be understood. Behavioral insights therefore allow practitioners to better diagnose and respond to many of the challenges commonly faced in the context of entrepreneurship programming. Behavioral perspectives also help us better highlight and respond to heterogeneity across entrepreneurs, including the differences between opportunity- and necessity-driven entrepreneurs as well as the challenges facing disadvantaged groups, such as women.

Although behaviorally informed interventions are no panacea, they have shown significant promise in improving outcomes for entrepreneurs. The current evidence base suggests that behaviorally informed interventions can have strong impacts on key outcomes such as program take-up, business entry, business practices, and firm performance. For instance, several of the interventions reviewed in this note, such as mentoring, personal-initiative training, or peer pressure through rankings, boosted profits by more than 20 percent — a significant improvement. Hence, behaviorally informed interventions provide valuable additional options in the toolbox of entrepreneurship practitioners. Given the predominance of self-employment and microenterprises in LMIC countries, increasing the effectiveness of entrepreneurship programs can, in turn, have notable repercussions for improved livelihoods, broader economic growth, and poverty reduction. That said, behaviorally informed interventions are no panacea, and while the studies presented in this report show that strong results are possible, there are also other studies (not presented in detail) that found more muted impacts. Like any other type of intervention, behaviorally informed approaches must address the actual constraints in the local context and be implemented with quality to be successful.

Despite a growing evidence base in recent years, there is still significant scope for continued research and experimentation. This report has shown that there is already a wealth of programming and research at the intersection of entrepreneurship and behavioral science. Yet, much work remains. For instance, additional behavioral barriers may remain which have not yet been systematically studied. Among the potential barriers identified, which present entrepreneurs with the most significant challenge and should be dismantled first? Do the promising results from existing studies replicate in other contexts? Which additional interventions could have a high impact? Which interventions are cost-effective and can be integrated without making interventions overly complex? Non-behavioral research can also play an important role in answering some of these questions, by investing more attention in systematically asking “why?” questions during Monitoring and Evaluation and impact evaluation studies and documenting the findings.

Policymakers and practitioners working to promote self-employment and entrepreneurship should adopt a systematic approach in applying behavioral insights. Critics may argue that many of the behavioral barriers and interventions presented in this note are already known to people designing and implementing entrepreneurship support interventions (even when they have no knowledge of “behavioral science”). While this may be partly true, the reality is that addressing these issues is typically done in a very ad-hoc and narrow way at best — not systematically. The key value of a behavioral science perspective is that it provides a clear framework and standard process to systematically identify and address many common, but less visible, challenges (prospective) entrepreneurs face. In practice, the systematic application of behavioral insights will usually require improved diagnostics (e.g., changes to entrepreneurship-related assessments), more flexible and adaptive program design, and more structured monitoring and evaluation processes. Hence, incorporating behavioral insights will demand openness to change, innovation, effort, and resilience from practitioners — familiar behaviors for those who work with entrepreneurs. Those willing to go this extra mile will be rewarded with high-impact programs.
Bibliography


Beyond Finance and Business Skills: Leveraging Behavioral Insights for Entrepreneurship Interventions in LMICs


Beyond Finance and Business Skills: Leveraging Behavioral Insights for Entrepreneurship Interventions in LMICs


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**Beyond Finance and Business Skills: Leveraging Behavioral Insights for Entrepreneurship Interventions in LMICs**
Appendix

Appendix 1. List of Potential Behavioral Barriers Impacting Entrepreneurship

The list below represents a more comprehensive list of potential behavioral barriers that may impact entrepreneurs at any stage of the entrepreneurial process. The list includes many purely speculative additions, which are meant to provide food for thought and raise potential paths for future exploration. Naturally, this list does not claim to be exhaustive, and is only a starting point for considering the significant impact of behavioral drivers in decision-making. The table provides an explanation of the behavioral phenomenon and an example or examples of how it may impact entrepreneurs.

<table>
<thead>
<tr>
<th>Behavioral bottleneck</th>
<th>Explanation</th>
<th>Potential Application to Entrepreneurship in LMICs</th>
</tr>
</thead>
</table>
| **Limited attention (and time)** | We only have a finite amount of attention at our disposal. When our attention is divided, we cannot concentrate equally and may perform a task less well. For example, when we are worried about something, we cannot focus as well on other things. | • The uncertainty (and associated worries) implicit in starting and running a business can drain mental resources.  
• Juggling multiple commitments and life challenges at the same time (e.g., paying for food/rent, health issues in the family, etc.) may limit entrepreneurs’ ability to attend to their businesses  
• Daily stresses and demands on attention may distract business owners from longer-term strategic thinking (e.g., decisions about new investments and innovation). Identifying business opportunities is likely to suffer if individuals lack the ability to focus on and comprehend information.  
• Limited attention may contribute to a failure to notice comparatively minor adjustments that could be made to improve business operation (Kremer, Lee, Robinson, & Rostapshov, 2016; Hanna, Mullainathan, & Schwartzstein, 2014; Beaman, Magruder, & Robinson, 2014).  
• Lack of time and attention may limit take-up of entrepreneurship support services or opportunities to receive business support. |
| **Decision-Fatigue** | As we must make more decisions, mental energy is depleted, leading to deterioration in the quality of the decision-making process. | • Potential entrepreneurs face countless decisions at the outset of starting a business (where to secure funding, where to establish premises, whom to hire, etc.), which may discourage them from proceeding or decrease the quality of their decisions.  
• Business-owners must deal with significant complexity (product/service, HR, finance, etc.) and make many decisions, big and small, every day, often under time pressure and stress, which may lead to deterioration in decision-making quality (e.g., an increase in relying on quick decisions and rules of thumb). |
| **Limited self-control / will-power** | We often lack the ability to follow through on intended actions. For instance, we fail to resist short-term temptations to meet long-term goals. We procrastinate, putting aside important tasks. | • High levels of self-control have been shown to help bring entrepreneurial intention to fruition, as it helps an individual avoid doubt and fear (Van Gelderen, Kautonen, & Fink, 2015).  
• As their own bosses, entrepreneurs lack supervision and may not have the self-control to work as hard as they would like to, or they may put aside important but unpleasant tasks (e.g., dealing with taxes, changing business processes).  
• Choosing to reinvest earnings or spend grant money on one’s business, rather than spend on short-term-consumption, represents a self-control challenge (Fafchamps, McKenzie, Quinn, & Woodruff, 2014). |
| **Forgetting / limited memory** | We often plan to do something in the future but may forget to take action – even when it is something important. | • Training may be ineffective if it occurs too far ahead or separately from the creation/running of a business, as individuals are likely to forget what they learned or not be able to apply it (Chrisman, McMullan, Ring, & Holt, 2012).  
• Due to the significant stressors they face on a daily basis, business owners may forget tasks or obligations (e.g., making loan payments on time (thus incurring additional expenses), keeping change on hand (leading to foregone sales), making inventory assessments (to avoid being out-of-stock), keeping records, collecting sales made on credit, etc.). |
| **Low self-confidence and self-esteem** | We are sometimes uncertain about our own abilities and/or do not have a high sense of self-worth, and so do not take action due to low expectations of success. | • Potential entrepreneurs who are not confident in their skills to start a business are less likely to do so. (Youth Business International, 2016).  
• Entrepreneurs who lack confidence are less likely to seize new opportunities along the way (e.g., accept challenging projects).  
• Entrepreneurs who lack confidence are at a disadvantage in business transactions (e.g., negotiations) and may find it difficult to market their products or skills to potential customers.  
• Female entrepreneurs may face even more significant challenges in maintaining self-confidence than men (Alibhai, et al., 2019). |
| **Lack of grit** | We require perseverance and passion to achieve long-term goals, otherwise we will not be able to overcome obstacles and challenges. | • Grit is thought to be correlated with business outcomes and innovation (Ubfal, et al., 2019).  
• Although some, particularly opportunity, entrepreneurs may be very good at “the sprint,” starting a business is a marathon, and entrepreneurship requires patience and work over the long-term that can cause significant frustration and psychological burdens (entrepreneurs may find it difficult to maintain motivation to overcome difficult phases). |
| **Mental Health** | The state of our mental health informs the mental resources available for conscious and deliberative decision-making. | • The high levels of stress and uncertainty facing entrepreneurs, particularly those operating in unstable external environments, may increase risks of depression and anxiety. In addition to reducing quality of life, such mental health concerns limit problem solving abilities and innovation and are therefore linked to lower business performance and return on investments (Saraf, Rahman, & Jamison, 2019).  
• Scarcity, which is particularly likely to impact necessity entrepreneurs, magnifies mental resource constraints and will limit bandwidth available (Mani, Mullainathan, Shafir, & Zhao, 2013). |

| **Type 2: Related to automatic thinking** |
| **Present bias** | We tend to put greater weight on what happens in the present over what will happen in the future. Hence, benefits (e.g., income, services) received today are valued more highly than the same (or even greater) benefits in the future. Similarly, costs incurred today (e.g., effort, expenses) are perceived more negatively than potential future costs. | • Entrepreneurs may not be willing to sacrifice short-term consumption or income-generating opportunities for longer term business investments opportunities.  
• Entrepreneurs may postpone important activities (e.g. changing business processes) whose benefits will only materialize in the future (Duflo, Kremer, & Robinson, 2011).  
• Entrepreneurs may find it difficult to save money for future investment if they are present-biased (Bauer, Chytilová, & Morduch, 2012).  
• Entrepreneurs may be slow to adopt new processes or technologies because they put a stronger emphasis on the immediate costs than the long-term associated benefits (Streletskaïa, et al., 2020).  
• Entrepreneurs may focus too much on just meeting immediate income needs, while not anticipating potential future needs. |
<table>
<thead>
<tr>
<th><strong>Emotions</strong></th>
<th>We may have emotional responses when making decisions, either when considering the consequences of our actions or due to our decision-making environment.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Confirmation Bias</strong></td>
<td>We tend to search for or interpret information that confirms our preconceptions.</td>
</tr>
<tr>
<td><strong>Optimism bias / Over-confidence</strong></td>
<td>We sometimes overestimate our abilities or assume everything will go according to plan. Similarly, we tend to underestimate the time, costs, and risks of future actions and overestimate the benefits (planning fallacy).</td>
</tr>
<tr>
<td><strong>Hassle factors</strong></td>
<td>Small inconveniences can prevent us from taking action or following through. Similarly, program requirements and conditionalities increase complexity and burden on beneficiaries.</td>
</tr>
<tr>
<td><strong>Loss aversion</strong></td>
<td>We tend to feel more strongly about avoiding losses than making gains.</td>
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<tr>
<td><strong>Status quo bias / inertia</strong></td>
<td>We often continue to do things in the way we are used to (even if not ideal) and resist change. This can be reinforced by the</td>
</tr>
</tbody>
</table>

- An entrepreneur’s productivity and time spent working may depend strongly on his emotional state.
- Anger and frustration can fuel conflict within group-led businesses.
- Individuals and teams may be unable to deal with external stressors, which may lead to suboptimal decision-making or abandoning the business.
- Emotions may influence entrepreneurs’ business decision-making (e.g., pricing, customer relationships), particularly for entrepreneurs who are strongly invested in their work (Ranganathan, 2015). For instance, being strongly invested in a particular product/idea can cause entrepreneurs to ignore customer needs.
- Emotional intelligence influences an entrepreneur’s business relationship, and a lack of EQ may be harmful when interacting with clients and suppliers.

- If an individual believes entrepreneurship is not an appropriate career path, they may be more likely to interpret evidence in their daily lives as supporting that conclusion and therefore fail to form entrepreneurial intentions.
- Entrepreneurs may selectively process external information that suggests future business success, rather than noticing information that would suggest problems/challenges.

- Entrepreneurs often overestimate their chances of success and underestimate the time it will take to get up and running (Frese & Gielnik, 2014).
- Entrepreneurs may believe that their firms are performing as well or better than their peers, and so fail to realize potential improvements in business practices.
- Entrepreneurs may reject options to receive training, funding, and support if they believe they “know best” about their business.
- Entrepreneurs may keep unprofitable firms running in hope that circumstances improve (Frese & Gielnik, 2014).

- Entrepreneurs may forego support services or avoid taking advantage of new opportunities if they involve inconveniences (for example, they may fail to apply to a new funding program or attend a business training) (Bruhn & Zia, 2011).
- Entrepreneurs may choose to operate informally if the burden of registering the business is considered too high.
- Entrepreneurs may be reluctant to grow their business in part due to the increase in hassle involved (dealing with employees, increased coordination required, etc.).

- Individuals may choose not to start a business due to fear of failure (Bosma & Kelley, 2018).
- Loss aversion is associated with lower shop inventories, while individuals who invest more in risky assets have higher profits (Kremer, Lee, Robinson, & Rostapshov, 2016).
- Farmers have been shown to underinvest in profitable new technologies or insurance that may maximize their incomes because losses loom about twice as large as gains (Streletskaya, et al., 2020).

- Starting a business generally requires a great deal of effort and change, so if an individual is comfortable in their current position — such as a wage job — they may be unlikely to invest the time, effort, and resources in a new venture.
| Complexity of a choice or decision. | • When starting a business, nothing is in place “by default,” so entrepreneurs may not know how to or fail to initiate important processes.  
• Prospective entrepreneurs may find it easier to copy the business models of others than develop their own.  
• Business owners become accustomed to doing things a certain way and often continue “business as usual” as long as possible without taking on (or even noticing) opportunities for improvement. |
|---|---|
| Mental accounting | We use a set of heuristic-based cognitive tools to organize, evaluate, and track our finances at a high level.  
• Mental accounting may be important in the decision of how an entrepreneur separates business and household finances. Having “separate accounts” for the business and the household may lead entrepreneurs to constrain their financial decision-making and reinvest business income in their business, while if they lack a separate account for business income, they may be more likely to use business income for short-term household consumption (Schaner, 2018). |
| Salience bias | We tend to focus on items or information that are more noteworthy while ignoring those that do not grab our attention.  
• Entrepreneurs may sometimes do some work for free, since the money “lost” is not tangible.  
• Entrepreneurs may underestimate how much money they lose through bad business practices or “hidden costs.”  
• Business owners may not notice comparatively minor adjustments that could be made to improve business operations if those items have never been pointed out to them (Kremer, Lee, Robinson, & Rostapshov, 2016; Hanna, Mullainathan, & Schwartzstein, 2014; Beaman, Magruder, & Robinson, 2014). |
| Type 3: Related to social environment | Social preferences | We are strongly influenced by perceived fairness as well as non-monetary incentives.  
• An entrepreneur’s productivity and work schedule may respond strongly to non-monetary incentives (e.g., social recognition).  
• Business decisions may be subject to social preferences. For example, the decision of how profits should be distributed (equally or according to productivity).  
• A business owner may stock items that don’t sell quickly (which poses an opportunity cost for inventory) if they may perceive social ramifications of not having that item in stock if someone requests it. |
| Negative peer effects | Our decisions are heavily influenced by what the people around us do and think, or what we perceive them to think.  
• Individuals may not choose to pursue entrepreneurship if it lacks their desired social status.  
• Individuals may feel social pressure (e.g., through family or community members) to pursue wage positions (Bitga, Feige, & Pallatino, 2020).  
• Entrepreneurs can be negatively influenced by sub-optimal behaviors of other business owners around them (e.g., copy inadequate products and services, low productivity, failure to attend training session).  
• Entrepreneurs may refuse to take up offers of outside assistance, such as training or funding, because they believe accepting assistance carries social stigma. |
| Messenger effect | Our decisions also strongly depend on who communicates information, including whether we like or identify with that person.  
• Efficacy of business training programs depends on the messenger (e.g., trainer) (Alibhai, et al., 2019).  
• Individuals are more receptive to messengers they perceive as similar to them. |
| Lack of network | Social networks provide emotional support, exposure to new ideas, and potential sources  
• Without a social network, entrepreneurs may find it difficult to validate their ideas, identify successful entry points, make professional contacts, or secure the resources necessary to
of funding without which individuals can find it more difficult to change their circumstances

Low levels of trust
- Depending on our institutional and social environment, we may only trust kin networks.
- Entrepreneurs may not trust governmental or non-governmental organizations as sources of funding or assistance, which may limit options for receiving training, insurance, or investment (Fiala, 2014; Youth Business International, 2016).
- Business owners may be reluctant to hire or cooperate with people outside the family or close community, and less likely to decentralize decision-making (to middle management of non-family members), thus inhibiting the adoption of good management practices and firm growth.
- Entrepreneurs may invest time and resources in guarding their premises and equipment and may be unwilling to leave their business in the hands of others.

Kinship contribution
- In some societies, strong social sharing norms exist and individuals who are successful may choose to (or be expected to) share their gains with others in their familial network.
- Entrepreneurs may choose to or face pressure to take money from their business to redistribute to kin rather than reinvesting profits for further growth (Grimm, Hartwig, & Lay, 2017). The impact of kinship contribution appears to be stronger for women (Fiala, 2017).
- Entrepreneurs may feel obligated to employ kin, leading to potentially inefficient matching of workers with jobs.

Detrimental social norms
- We are influenced by the commonly accepted rules or expectations of behavior within our social networks and culture (i.e., social pressure).
- Particular groups (such as women) may be discouraged from pursuing entrepreneurship or working in higher profit sectors due to existing social norms.
- Society or family may put a strong value on stability and steady income, thus discouraging self-employment as a career path.
- There may be a societal stigma against “failure”, which may reduce entrepreneurial intentions.

Type 4: Related to mental models

Identity
- Our sense of identity (e.g., related to gender, religion, ethnicity, profession) shapes our decisions and behaviors.
- People of certain backgrounds (e.g., certain income levels, certain castes) may not pursue entrepreneurship, as it is not typically associated with their group identity. For example, women may not pursue entrepreneurship given that entrepreneurship is often characterized by stereotypically masculine traits (Baughn, Chua, & Neupert, 2006).
- Identities may be related to different household roles and responsibilities that carry significant time and financial burdens and different decision-making responsibilities (i.e., women (Campos & Gassier, 2017)).
- Individuals with a history of financial distress (common among many necessity entrepreneurs) may be more likely to have a negative self-image, burdening mental health.

Lack of role models
- Without a role model to demonstrate that a particular behavior is both desirable and achievable, we may be less likely to perform that behavior.
- When a potential entrepreneur is deciding between a less risky wage position and starting a business, not having a role model to demonstrate the possible outcomes of entrepreneurship may push her towards accepting the wage job.
- Entrepreneurs, particularly necessity entrepreneurs, may lack role models to demonstrate possible successful outcomes if they invest further resources in their businesses.

Low aspirations
- We sometimes do not aspire to do something even if it would be beneficial to us.
- Some individuals, especially from poor households, may not aspire to improve their working conditions by considering the opportunities provided by entrepreneurship.
- Micro-business owners (particularly necessity entrepreneurs) may not aspire to grow or maximize profits (Dalton, Rüschelpöhler, Uras, & Zia, 2019; Fox & Sohnesen, 2012).
- Female entrepreneurs may be likely to have lower aspirations than male entrepreneurs (Dalton, Rüschelpöhler, & Zia, 2018).

<table>
<thead>
<tr>
<th>Low self-efficacy</th>
<th>We sometimes do not believe that we can succeed in new and/or challenging situations.</th>
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<tbody>
<tr>
<td></td>
<td>Potential entrepreneurs may not believe that they are able to tackle certain challenges and hence shy away from starting a business (Burnette, et al., 2020).</td>
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<tr>
<td></td>
<td>Entrepreneurs may not believe that they are able to grow their businesses and so fail to take advantage of potential growth opportunities. Because pursuing entrepreneurship requires both goal-setting and ability to overcome failure, self-efficacy is linked with entrepreneurial performance (Foleide, 2013).</td>
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<tr>
<td></td>
<td>Entrepreneurs may lack of the ability to plan, break down goals into concrete activities, anticipate challenges and overcome obstacles, adapt plans, etc.</td>
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<td></td>
<td>Entrepreneurs sometimes have expectations that others must help them and provide resources, rather than taking responsibility and action themselves.</td>
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<tr>
<th>Fixed mindset</th>
<th>We may sometimes believe that whether we can do something well is an innate, fixed trait, and thus neglect the role of determination, learning, and persistence.</th>
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<tbody>
<tr>
<td></td>
<td>Individuals with a fixed mindset may believe that because they do not innately possess entrepreneurial skills they cannot be successful entrepreneurs; therefore they do not make an effort to learn new skills.</td>
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<tr>
<th>Discrimination</th>
<th>We may think negatively about people belonging to certain groups (e.g., by sex, disability, race, religion) and therefore treat them unfavorably.</th>
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<tbody>
<tr>
<td></td>
<td>Certain groups may face legal or practical barriers to controlling property or being able to save and invest (Mizrahi &amp; Fraser-Moleketi, 2015).</td>
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<tr>
<td></td>
<td>Women and minority groups may face discrimination against their businesses, for example in the size of loans they can secure from banks (Alibhai, et al., 2019).</td>
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<tr>
<th>Unrealistic beliefs about work</th>
<th>We may hold inadequate beliefs about what type of work is desirable and unrealistic expectations about what kind of job can be obtained</th>
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<tbody>
<tr>
<td></td>
<td>Many young people and their families hold the belief that the ideal outcome of education is a white-collar public sector position, which may lead them away from pursuing entrepreneurship opportunities.</td>
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<tr>
<td></td>
<td>Prospective entrepreneurs may have unrealistic beliefs about the amount of work and sacrifice it takes to run a successful business.</td>
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<tr>
<td></td>
<td>Aspiring entrepreneurs may be held back by thinking “too big” and focusing too much on the lack of money, rather than starting small and building the business as they go (i.e., bootstrapping).</td>
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<tr>
<td></td>
<td>Young people may hold the unrealistic belief that self-employment will help them get “quick money.”</td>
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