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# A Methodological Review for the Data Must Speak Positive Deviance Research

Insights from positive deviance, behavioural sciences,  
implementation research and scaling science

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# **A Methodological Review for the Data Must Speak Positive Deviance Research**

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implementation research and scaling science

Lorena Lévano, Cirenía Chavez, Alvaro Fortin, Luca Maria Pesando, Renaud Comba





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# 1. Preface

This methodological review aims to gather, in one place, a wide variety of studies to provide guidance on best practices and lessons learned from positive deviance, behavioural sciences, implementation research, and scaling science methodologies and approaches. It offers a common reference and standard language for the Data Must Speak (DMS) Positive Deviance Research and provides guidance for its application at the country level.

The document begins by presenting an overview of the context and background of the DMS global initiative and its research components, including its overall aim, goals and stages. The second section elaborates on the various concepts and definitions relevant to the research, such as positive deviance, behavioural sciences, implementation research, and scaling science. The third section provides key lessons from previous studies on how to best identify positive deviant outliers. For example, in the educational field, such positive deviant outliers can be schools that perform better than other schools in similar contexts and operate with similar resources. The fourth section comprises a review of methodological experiences related to identifying behaviours and practices associated with the success of those positive deviant outliers. It includes key lessons from qualitative methods for identifying positive deviant behaviours in education and other fields and knowledge from the behavioural sciences that serve to analyse positive deviant practices and their drivers. The fifth section reviews previous experiences and frameworks used to identify levers for optimal scale in low- and middle-income countries (LMICs). This section is divided into two parts: (i) exploring how behavioural sciences can be used for change and scale-up of positive deviant practices; and (ii) the strategic synthesis of evidence from implementation research and scaling science. The last section presents the main conclusions of this methodological review. It provides a high-level summary of how the research team will support ministries of education in applying this document's findings when implementing the DMS research at the country level. Finally, the annex provides a list of instruments and references useful for identifying positive deviant behaviours and practices.

The research questions that guide this review are the following:

1. How have the methodologies used in positive deviance been applied in education and other sectors? What are some of the factors underlying their success? Which ones could be relevant for (or adapted to) the DMS research at the country level?
2. How have behavioural sciences been used to understand behaviours and identify their drivers? How can they be used to identify levers for change in the education field? Which ones could be relevant for (or adapted to) the application of DMS research at the country level?
3. How have the methodologies used in implementation research and scaling science been applied in education and other sectors? What are the successful factors for the identification and contextualization of levers for optimal scale? How can these methodologies be adapted and used by the DMS research at the country level?

This methodological review draws on existing examples from education and other fields. The document includes key definitions, concepts, and methodologies that may guide and inform the development of the DMS research. The authors conducted the methodological review using several approaches. First, various education experts suggested a list of key references and literature, which the authors reviewed in full. The authors scanned their respective bibliographies to identify additional relevant material and literature. Once all references had been thoroughly reviewed, the authors conducted searches on different platforms, including Ebsco and Google Scholar. [The Positive Deviance Collaborative webpage](#) was also used, as it provides a full list of bibliographic resources on positive deviance. The authors did not impose any strict criteria in terms of time frame, although recent literature was preferred over outdated studies. Keywords for searches included – but were not limited to – “positive deviance and education,” “implementation research,” “implementation science,” “outcomes,” “behavioral/behavioural sciences,” “behavioral/behavioural change,” “scaling science,” and a combination of these terms. Only material drafted in English was reviewed.





## 2. Context and background

The learning crisis is striking. Fifty-three per cent of children in low- and middle-income countries (LMICs) cannot read and understand a simple text by age 10 (World Bank, 2019). In low-income countries, the learning poverty rate is as high as 90 per cent. The COVID-19 pandemic has aggravated the loss in learning (Azevedo et al., 2020). In an unprecedented time of global strife, these high levels of illiteracy provide an early warning that all global educational goals and related Sustainable Development Goals (SDGs) – including gender equality in education – are in jeopardy (World Bank, 2019).

Nonetheless, even in the most challenging contexts, there are some unique and positive cases, i.e. schools that outperform (in terms of foundational learning, retention, equity, and gender-equality outcomes) other peer schools located in similar contexts and with an equivalent level of resources. These are known as ‘positive deviant’ schools, and the outcomes they achieve are likely linked to specific practices and behaviours, either in school (e.g., school management practices and/or pedagogical approaches) or in relation to school (e.g., parental and community involvement). In a recent study that evaluated the performance of education systems across 10 African countries, Mahdjoub and Mingat (2020) found that actors’ behaviours and practices play an even more significant role than resources in determining the quality of education services delivered by the schools.

Despite this finding, few attempts have been made to identify positive deviant schools in LMICs. Even less is known about their positive deviant practices and associated behaviours, drivers, intrinsic or extrinsic motivations. Furthermore, their drivers and intrinsic/extrinsic motivations should not be left out since they can help inform the implementation gap in service delivery. They can also inform the scaling up of the positive deviant practices in lower-performing schools, considering contextual particularities.

Data Must Speak (DMS), an initiative implemented by UNICEF since 2014, provides country-specific technical support and capacity strengthening to ministries of education (MoE) for more effective and transparent data use at the system (central and decentralized), school and community levels, including through improved social accountability. DMS also includes a research component with a newly designed positive deviance approach to address the evidence gaps described above. This component aims to conduct mixed-methods research in the participating countries<sup>1</sup> and generate knowledge about the main challenges encountered in the process, alongside practical lessons about ‘what works’ and ‘how to’ scale grassroots solutions for the broader international community of education stakeholders.

The main goal of the positive deviance approach is to identify schools that outperform peer schools in similar contexts and with an equivalent level of resources. This will be done considering a micro-level component that acknowledges that school performance is a function of many factors, including student-level performance and community engagement, etc. Student-level performance is itself the by-product of a complex interaction of family and non-family characteristics which affect children’s developmental outcomes from birth and throughout the life course, such as parental investments in children, household resources (e.g., food availability, books, time investments, etc.), family stressors (e.g., violence within the household, death of a family member, etc.), household shocks (e.g., loss of livestock, unexpected drought, sudden income loss, food crisis, etc.), school and family learning climate, and societal norms and beliefs regarding the value of education vis-à-vis child labour in a specific context.

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1. At the time of writing, the DMS Positive Deviance Research is being implemented in 13 countries: Brazil, Burkina Faso, Cote d’Ivoire, Ethiopia, Ghana, Lao PDR, Madagascar, Mali, Nepal, Niger, Tanzania, Togo, and Zambia.

Similarly, schools are embedded within broader societal contexts, which can be more or less conducive to high achievement, including social norms, cultural values, political stability, institutional presence, and government efficiency. The positive deviance approach retains its primary focus on schools and school performance, yet it fully embeds these micro-, meso-, and macro-level influences when identifying outperforming and underperforming schools. It does so by resorting to different data sources covering individuals, households, schools and societies as well as capitalizing on quantitative and qualitative research methods. This holistic approach allows us to grasp contextual dynamics in a synergistic and complementary manner.

Considering the above, in each country, the research team will support the ministry of education to classify the schools into typologies and hence identify the positive deviant schools. Then, fieldwork will be conducted in a sample of positive deviant and non-positive deviant schools and the practices and behaviours in place will be compared to identify the positive deviant behaviours/practices. Finally, levers for the optimal scale of the identified positive deviant practices/behaviours will be explored.





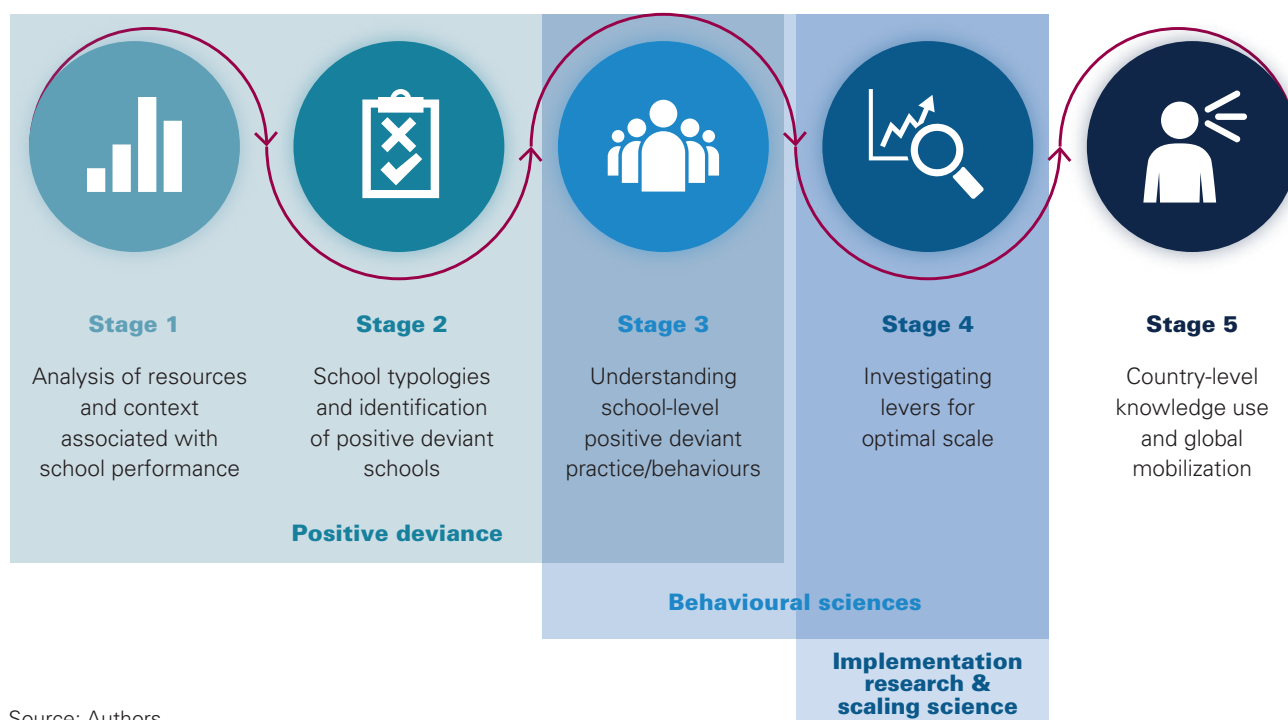
It is worth mentioning that the DMS research will not analyse a specific intervention. Priority will be given to investigating locally rooted existing solutions (practices and behaviours) in each country. **Figure 1** illustrates the stages of the research and how each of the key concepts relates to each stage.

Throughout all its stages, the research will be based on the proven principles of DMS, which include demand-driven, learning by doing, peer-to-peer learning, scalability, openness and replicability. Thus, research activities are co-created and co-implemented with the ministries of education, research participants, and other country-level education stakeholders: research by and for its beneficiaries.

While co-creation is generally more time- and resource-consuming, it ensures that research (i) is well aligned with participating governments’ priorities; (ii) critically engages with the context, (iii) maximizes greater use of the findings for policy design and implementation, and (iv) allows national research capacity strengthening through a ‘learning-by-doing’ approach which paves the way for autonomous replication of the research by the national partners.

The co-creation approach in the DMS research entails full collaboration from the outset with all relevant parties to agree on the methodology, approach and timeline. It also means co-designing the research instruments and analysing the data together to maximize the use of instruments and data at every system level. Co-creating is necessary primarily because positive deviance is intrinsically participant-driven.

**Figure 1. Stages of DMS Positive Deviance Research**



Source: Authors







# 3. Definitions and conceptual clarifications

## 3.1. Positive deviance

Positive deviance is an approach to behavioural and social change. It is grounded on the premise that in every community, there are individuals whose behaviours and practices enable them to find better solutions to the same problems faced by their peers in similar circumstances and with the same access to resources (Herington and Van De Fliert, 2018). According to Bradley et al. (2009, cited in Herington and Van De Fliert, 2018), positive deviance has been defined as a practical strategy for identifying and promoting exceptionally high performance in a given area of interest.

For the sake of this research, positive deviant schools will usually be identified as the ones that consistently perform well on foundational learning outcomes, that display low dropout rates, and show good equity indicators in a given environment with similar levels of resources. The given environment and level of resources will be defined based on selected factors (e.g., urban/rural, the poverty rate in the area, availability of electricity, water, qualified teachers, teaching material, and other school resourcing), which will result in the schools being divided into context-relevant groups. Their 'deviance' is then assessed in relation to other schools within their reference groups (rather than all schools in general). Econometric techniques will be used by ministries of education (supported by the research team) to identify positive deviant schools that perform significantly better than predicted within each group, controlling for a wide range of other independent variables.

Although the literature on positive deviance points to six stages (see **Box 1**), the positive deviant process, as described in this review and for relevance for DMS work, will be limited to the identification of positive outliers and the behaviours and practices associated with their outcomes (stages 1 to 3 in **Figure 1**).

## 3.2. Behavioural sciences

Recent studies have increasingly shown that people do not behave as rationally as the standard economic paradigm would predict (Kahneman, 2011; Maletta, 2010). Accordingly, behavioural sciences arise as a result of the interaction of various disciplines such as economics, psychology, sociology, neuroscience, etc., to deepen the understanding of how human beings behave and make decisions (Adhikari, 2016). Behavioural sciences adopt an inductive approach, which no longer holds general assumptions about individual or collective behaviours; rather, it is based on empirical observations (Lunn, 2012).

The inductive observational methodology of the behavioural sciences provides evidence to inform practical conclusions that can be leveraged, according to specific contexts, to promote behavioural change (OECD, 2019a). Consequently, behavioural sciences provide practical tools to develop interventions that promote the uptake or abandonment of certain practices in diverse fields such as education, poverty, gender, environmental care, healthy habits, tax collection, etc. (Sunstein, 2020). In the DMS research, behavioural sciences will be used to (i) identify school-level positive deviant behaviours and their underlying drivers (stage 3 in **Figure 1**), as well as (ii) identify the levers for the optimal scale of positive deviant behaviours (stage 4 in **Figure 1**).

## 3.3. Implementation research

The implementation research concept will be adopted to understand the success factors involved in implementing the previously identified positive deviant behaviours and practices (stage 4 in **Figure 1**). Implementation research has many definitions in the literature. For our purposes, it is defined as an innovative approach to systems strengthening in which decision makers and implementers lead the generation and use

## Box 1. Criteria for positive deviance and phases of the positive deviance method

Positive deviance is a concept that has been around for 30 years (as opposed to the concept of deviance, which can be traced to American sociology of the 1900s – e.g., Durkheim (1964)), and originally gained recognition in the work of Tufts University Professor of nutrition Marian Zeitlin in the 1980s. She began focusing on why some children in poor communities were better nourished than others despite living in the same contexts (Zeitlin, 1991). Its operationalization was pioneered in the 1990s in the work of Jerry and Monique Sternin, concerned with combating malnutrition in Vietnam. There are now more than 100 positive deviance projects globally in 45 different countries (The Change Pod, n.d.), and examples of positive deviance programmes can be found in a wide variety of domains such as child nutrition, reproductive health, smoking behaviour, and also in education (Herington and Van De Fliert, 2018). The positive deviance approach should be considered when a concrete problem meets four specific criteria. According to Pascale et al. (2010), these criteria are:

- The problem is not exclusively technical and requires both behavioural and social change;
- Other solutions to the problem have not worked so far (the problem is 'intractable');
- Positive deviance outliers are thought to exist and can be identified;
- There is commitment among community members to address the issue.

According to the original creators of the approach, six phases are involved in the positive deviance method:

Phase 1: **Define** the organizational or community problem and desired outcomes, led by the community.

Phase 2: **Determine** common practices relevant to the problem by conducting formal and informal discussions and/or through the application of action techniques (e.g., mapping, improvisation, etc.) with people in the community.

Phase 3: The community **discovers** uncommon but successful behaviours, practices and strategies through inquiry and observation. The individuals who show the desired outcomes, despite facing the same or greater constraints, are labelled as positive deviant cases. The successful behaviours should be vetted by everyone in the community, as only behaviours that are locally relevant and accessible to all will be adopted by the community.

Phase 4: **Design** an action learning initiative based on findings. Providing opportunities for practice by testing the initiative in a small setting is important as behaviours are not likely to change if people are only presented with new information. In this phase, the community should also design a monitoring plan to assign roles to individuals. The community decides and creates its indicators of progress, both quantitative and qualitative.

Phase 5: **Monitor** the initiative's progress by documenting and evaluating regularly using monitoring indicators developed in Phase 4.

Phase 6: **Communicate** results through sharing, honouring, and amplifying success stories with interested external groups. In the past, 'success stories' have been honoured and amplified through, for instance, storytelling.

Source: Adapted from Pascale et al. (2010) and LeMahieu et al. (2017)



of research. Also, implementation research considers the local context, priorities, and system complexity, including a) positioning research within existing programmes and systems<sup>2</sup>, b) meaningful engagement and leadership roles for decision makers, including implementers, and c) aligning research activities with programme implementation cycles. In other words: “The basic intent of implementation research is to understand not only what is and isn’t working, but how and why implementation is going right or wrong and testing approaches to improve it. This form of research addresses implementation bottlenecks identifies optimal approaches for a particular setting, and promotes the uptake of research findings” (Peters et al., 2013).

### 3.4. Scaling science

Scaling science is an approach that aims to increase the likelihood of making significant changes and optimizing results in ways that matter to people. It tries to increase the scope of positive innovation impacts while systematically accounting for the entire path to scale (IDRC, 2016). Evidence suggests the importance of considering the context, not only for designing an innovation but also for its implementation and scaling up. Thus, successful programmes, practices and behaviours need to be scaled considering the local circumstances in which they are to be applied (UNICEF, 2016). This approach will be used in stage 4 (see **Figure 1**), complemented with behavioural sciences and implementation research to identify the incentives and levers to put in place for scaling up the identified positive deviant practices and behaviours. Implementation research and scaling science recognize the importance of learning systems and the need to document failures and key challenges to understand not only ‘what works’ but also ‘what does not work’.

These considerations should be applied at multiple levels of the implementation or scaling process, including context, resources, power of champions, the role of peer endorsement, pressure through scorecards, etc. However, due to the scope of the DMS research, the focus will be primarily on positive deviant behaviours and practices and their achievements.

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2. In the case of DMS, ‘programme’ refers to the education service delivery happening at school level and ‘system’ refers to the whole education system, including schools, the grassroots community around the school, and decentralized and central education stakeholders and processes/policies.





## 4. Positive deviance methodologies

### Identification of positive deviant schools

This section summarizes the main insights from best practices and lessons learned from the reviewed studies. The DMS research team will ensure that these insights are contextualized and applied in the field, hand-in-hand with ministries of education and other in-country partners and stakeholders. To this end, this section describes the methods used to identify positive deviant outliers in education and other fields. Two major trends have been identified: a 'researcher-led' approach (community participation is null or limited to being the subject of information collection) and a 'community-led' approach (community members are engaged in all aspects of the research, including the identification of positive outliers). The latter implies co-construction with community members instead of only collecting information from them. In addition, given the objectives of the DMS research, action-oriented studies have also been reviewed.

The research team will draw methodological lessons from previous research, emphasizing the different levels of community involvement. This will be useful since, due to the collaborative and 'no one-size-fits-all' nature of the DMS research, its design must maintain a high degree of flexibility when deciding the level at which community members will be involved. Insights presented below will serve as guidance for stages 1 and 2 of the research, and the lessons learned will be adapted to specific communities and contexts.

#### 4.1. Positive deviance methodologies used in education

Most of the literature identified on positive deviance in education has been researcher-led in nature and has combined a statistical approach with expert insights to select positive deviant outliers. A PhD thesis using a

mixed-methods approach investigated teacher practices in rural schools where students outperformed their peers on the national standardized test (ENLACE) in Mexico. Castillo-Castro (2018) used a value-added model to select the group of schools that were adding positive value to the learning outcomes of their students, despite serving a population in disadvantaged socioeconomic circumstances.

According to McPherson (1992), the measurement of value-added schools is defined as the estimate of the contribution that schools make to the progress of all of their students and is a preferable method for providing information about school quality relative to standardized test scores alone (see discussion in Drury and Duran, 2003). According to Hanushek and Hoxby (2005), by computing teachers' and schools' value-added, it is possible to measure the contribution of individual teachers and schools in a manner that is more informative than common measures of performance. The calculations of schools' value-added are based on very conventional statistical analyses (least squares regression) that net out the influence of non-school-related variables (such as family socioeconomic status and other contextual factors). From a sample of 2,574 primary schools in the Mexican state of Hidalgo, Castillo-Castro (2018) identified 18 schools as having positive value-added scores (i.e., the positive deviant schools), which means they consistently showed better results than other schools in a similar context in the standardized ENLACE test. Similarly, a RISE study in Pakistan analyses teacher effectiveness, teacher value-added, and correlated variables (including teacher wages), and extends previous experimental results on teacher contracts to a large-scale policy change showing that there is a severe misallocation between pay and productivity in the public sector (RISE, 2017).



In Namibia, a 2016 study of schools identified outliers through two separate processes. First, secondary schools identified as performing highly consistently in Grade 10 and 12 national exams were selected. The researchers ensured that the selected schools were public, thereby removing private schools serving affluent communities from the sample. A complementary strategy had to be developed to select primary schools, as the National Standardized Achievement Tests in Namibia are not universal, and tests are not administered regularly. The primary schools were therefore selected by a researcher working with regional education authorities. Schools were selected based on the reputation in their regions. Schools that performed corporal punishment or used unlawful practices were dropped from the research sample (UNICEF, 2016). Community members were not involved in identifying schools. Rather, the authors selected schools in close partnership with the central and decentralized education authorities in Namibia.

In the Netherlands, Bouman et al. (2014) used the positive deviance approach to improve adolescents' psychological resilience, particularly with immigrant groups with a low socioeconomic status. The selected schools had the following characteristics: they had more than 150 students (50 per cent or more of them of migrant origin), they were located in a disadvantaged neighbourhood, and with students performing better than average on the Strengths and Difficulties Questionnaire. The study used in-depth and informal interviews combined with participatory observations, photo documentation, and feedback sessions to identify micro-behavioural practices of teachers, students and staff members that contribute to students' mental resilience. As a key lesson of the study, the researchers suggest that using the term '*positive deviant*' may contain negative meanings in different contexts, and therefore recommend using the term '*positive exception*' instead. Furthermore, the authors emphasize that the positive deviance methodologies do not have to answer hypothetical deductive questions a priori – rather it should focus on what works in the field (Bouman et al., 2014).

In the United States, several studies using a positive deviance approach have relied on identifying outliers through school authorities without statistical methods. These studies, however, are different in that they

focused on positive deviant students or teachers, not schools. For example, in a study focusing on African Americans who successfully completed their college education, positive deviant cases were defined by Harper (2012) as African American students who met a series of strict conditions.<sup>3</sup> Harper asked administrators and professors at 42 institutions for candidates that fit the criteria that he set out for success to identify these students. The selected participants were not different from other African American men of their age regarding their socioeconomic status (SES) or parents' backgrounds. As in the cases illustrated above, the researcher established the criteria for success but relied on academic authorities to identify the positive deviant cases. In a similar study exploring over-achievers – successful students at the undergraduate and graduate levels in the US – the authors identified positive deviant outliers through professors in different departments. One hundred and three professors received a description of the study criteria. They were asked to send a detailed recruitment letter to any student who matched the criteria and made an adequate candidate according to the research aims (Shoenberger et al., 2015).

While these approaches have been straightforward, there has been little to no indication of how to identify positive deviant outliers when working with hidden or hard-to-reach groups or populations. A study exploring how children from low-income families excelled academically in Singapore sheds light on an alternative route for identifying positive deviant outliers, namely snowball sampling. Cheang and Goh (2018) identified positive deviant students who grew up in resource-deprived households yet managed to outperform their peers academically. These children were between the ages of 9 and 13 and had attained academic performance beyond the 70th percentile in the most recent school examinations and came from low-income families. Because few children met the two criteria, the authors approached social workers from three community-based Family Service Centers serving

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3. This included: grade point averages of 3.0 or higher; a consistent record of participation in student leadership groups; development of meaningful relationships with campus administrators and faculty outside the classroom; participation in enriching educational experiences (e.g., study abroad programmes, etc.), and had an accumulation of merit-based grants and awards.

disadvantaged populations in different locations. The social workers reported that few children met the two positive deviant criteria established. Hence, the authors used a snowball sampling method: they tapped into the personal social networks of the first few participants, and were thus able to include a total of 10 children in their study.

In contrast to the five examples illustrated above, another branch of the literature has not been purely led by researchers or experts. Rather, it has sought to operationalize positive deviance with a community-led approach by taking identified behaviours and showcasing them to address a protracted issue in a given community. This type of research has been much more participatory. It has involved community members from the outset, including initial activities to define the positive outcomes and select positive deviant cases. For example, in Misiones, Argentina, dropout rates were extremely high – a first grader would only have a 50 per cent chance of making it past the sixth grade in 2000 due to traditional roles that young children played in local agriculture. The positive deviance approach was used to identify elementary schools that did not have such high dropout rates to identify how this outcome was achieved. Schools with a retention rate of 75 per cent or higher were identified as the positive deviant schools (Singhal, 2013). To determine whether schools were positive deviant, each group made up of parents and teachers from the community in question was given a calculator and a list of schools with data on the number of students enrolled in grades 1 to 3. The participants identified these schools and ranked them accordingly. After calculating retention rates for 63 schools, eight potential positive deviant schools with retention rates ranging from 78 per cent to 100 per cent were identified. These were labelled as the positive deviant schools (Ibid.).

Finally, a recent study undertaken by Alain Mingat (forthcoming) has also examined the impact of local conditions on education outcomes of individual schools in 26 countries from sub-Saharan Africa and Latin America. Three highlights come out of the study: first, there are significant learning outcomes disparities between individual schools within similar contexts; second, the differences between comparable schools are even bigger in countries with a lower average of student learning; and third, the association between

school resources and learning outcomes is usually weak. Thus, it provides an important rationale for formally studying what characterizes positively deviant schools (e.g., processes, behaviours and adopted practices) in these contexts. This is particularly important for the DMS participating countries where learning poverty rates are high.

Despite the inclusiveness of the participatory approach outlined above, most studies using the positive deviant framework in education have relied on a researcher-led approach, applying statistical methods for identifying outliers and/or relied on the recommendation of experts or education authorities. Where experts have been unable to assist in the identification of outliers, snowball sampling has been used. For further information on other qualitative techniques to identify positive deviant in education, see section 6.1.

## 4.2. Positive deviance methodologies used in other fields

The positive deviance approach has been used in education and in various fields such as health and nutrition, from which it originated. It has also been used to address other complex social issues deeply gendered in nature ranging from female genital mutilation to sex trafficking and HIV risk behaviours, as illustrated in this section. Identifying positive deviant outliers has relied on a combination of approaches, with some researcher-led studies leaning towards using statistical methods combined with a qualitative appraisal. In contrast, most efforts listed below have been community-led projects and have relied more on participatory methods.

In a study from the health field, Bradley et al. (2009) identified positive deviant hospitals based on their treatments for heart attacks or acute myocardial infarction. Hospitals have direct control over the time interval from the patient's hospital arrival to PCI (percutaneous coronary intervention), known as 'door-to-balloon time'. To identify exceptional performers, they located approximately 35 hospitals in which patients had been treated for acute myocardial infarction using PCI and where the median door-to-balloon time was 90 minutes or less for their previous 50 cases. These hospitals were ranked by the degree to which they had improved in the previous four years. The hospitals

with the greatest improvements were selected as the positive deviant outliers.

Peiffer et al. (2019) identified positive deviant cases for bribery reduction. They use simple regression analyses based on sector-specific bribery rates to find statistically significant outliers. The latest wave for 2015 had a sample of 162,136 adults from 119 countries (Peiffer et al., 2019). Positive deviant cases were identified as sectors in countries where the bribery rate had reduced far more than expected given the rate of change in bribery experienced by other sectors in the same country over the same period (Ibid.) (see Box 2 for more strategies for identifying positive deviant outliers in bribery reduction). As a second step, potential positive deviant cases were vetted through a review of the literature and preliminary consultations with in-country experts to assess whether a case should be included or not. Fifty experts were identified using

snowball sampling techniques, starting with contacts from the larger research team's personal networks. Correspondence with experts centred on whether they were aware of any supporting evidence or counter-evidence that bribery had decreased. This step is particularly important because measurement errors may lead to identifying false positives in the first step of the methodology.

Similarly, a study conducted by RISE in India showed that levels of students' achievement from a large census were severely inflated due to cheating, thus highlighting challenges of data corruptibility and evidence on potential reforms to address it (Singh, 2020). The third stage involved a qualitative appraisal, with potential cases investigated through in-country fieldwork (reduction in police-related bribery in South Africa and health-related bribery in Uganda) to further vet the cases. Five to six weeks of fieldwork were conducted,

## Box 2. Three strategies for identifying positive deviant outliers in bribery reduction

In their study of bribery reduction using the Global Corruption Barometer (GCB) data, one of the co-authors (Peiffer, 2012) had originally identified three types of positive deviant outliers. These can serve as constructs to help operationalize the identification of positive deviant outliers in other areas:

- 1. Structural positive deviant outliers:** Data from GCB were used to identify sectors with a lower level of perceived or experienced corruption than a general level of corruption would otherwise have been expected. In education, this could translate into selecting schools that have a higher performance level or a more balanced gender distribution of foundational learning outcomes than would have otherwise been expected.
- 2. Improvement over time approach:** positive deviant outliers are those countries where a sector improved more in terms of the level of

corruption than expected, given the change in the general level of corruption in the country over the same period. Two subcategories of positive outliers within this type were used: 1) those where the predicted level of corruption was expected to worsen, but instead an improvement took place; and 2) those where X improvement was expected but a larger improvement than X took place. In education, this could translate into selecting schools where 1) foundational learning outcomes were expected to worsen but instead improved; or 2) those where a larger than expected improvement in foundational learning outcomes took place (this could even vary by subgroup; for instance, we could observe a proportionally greater improvement among girls and not among boys, or vice versa).

- 3. Service sector structural positive deviant outliers:** This approach places similar sectors against each other within a country and allows those sectors with a lower level of corruption to be identified.

*Adapted from Peiffer (2012)*



with researchers relying on snowball sampling, starting with contacts from the extended research team.

The authors argue that this three-stage methodology is more useful for uncovering 'hidden' positive deviant cases than the most commonly used methodology to identify positive deviant outliers, which is reputational (as illustrated in most studies using a positive deviance approach in education) and has two important limitations: first, as reputational assessment is subjective, it may be misattributed, and second, when the cases considered include only those thought to be successful, unexpected cases of dramatic change that have not been identified are excluded from consideration (Peiffer et al., 2019)<sup>4</sup> When this happens, efforts to understand positive deviant outliers miss valuable sources and perhaps even some of the most surprising cases (Ibid.).

In community-led research, the identification of positive deviant outliers has relied more on community members and participatory methods. For example, in Vietnam, where the positive deviance approach was originally operationalized to decrease child malnutrition in the 1990s, identifying positive deviant children directly involved people from the community. People from the villages where the intervention would occur were self-selected as health volunteers to manage the programme (rather than being appointed by experts) (Pascale et al., 2010). Health volunteers were involved in the baseline weight measurement of children in rural villages, and they ranked households into different categories of poverty. By taking part in this initial exercise, the community members realized that very poor children were well nourished. Throughout this process, the community identified them as positive deviant cases.

In Indonesia, the positive deviance approach was leveraged to curb girls' trafficking in the village of Gadungsari. A workshop was facilitated in the village where *kaders* (designated village-level development

workers) were given a deeper understanding of the positive deviance approach (Singhal and Dura, 2009). They were first asked to list some of the most important problems faced in the village and to identify the most serious concerns. Trafficking of girls for sex trade was identified as the most serious concern. Workshop participants were then asked to define what a positive deviant in this context would look like. Workshop attendees agreed that a positive deviant would be a low-income family that had refused to send their girls out of the village because they might wind up in the sex industry. Participants were then asked to think if they directly knew people from the community who refused to do this. Individuals identified by the participants were labelled as positive deviant cases (Singhal and Dura, 2009).

In Egypt, the positive deviance approach was used to tackle female genital mutilation (FGM), which affects 97 per cent of women in the country. Young girls in Egypt had begun to recognize that FGM was harmful, and they were begging to identify exceptions in their communities to help convince their mothers to stop the practice. In asking for the identification of exceptions, the community defined what a positive deviant case was, a girl or woman who had managed to resist FGM and constituted part of the 3 per cent (Pascale et al., 2010). The researcher (a foreigner) found a local sponsor and built up a local team to identify them and collect their testimonies in a video-recorded interview to address the issue. This was not an easy endeavour as most women (and men) were unwilling to discuss the topic publicly, less so on camera. Six volunteers from the community, including a medical doctor who had stopped practising FGM, agreed to be videotaped and provide their testimony. Building a rapport and fostering trust were key for positive deviant girls to feel comfortable sharing their experiences.

Lastly, a study to discover behaviours that prevent HIV infections amongst young black MSM ('men who have sex with men') in the US sheds light on possible avenues for identifying positive deviant outliers that might be stigmatized in their communities (in addition to snowball sampling). Ober et al. (2018) define positive deviant outliers as men who engage in high-risk behaviours but manage to remain HIV uninfected. The authors investigate whether these men have used risk-reduction strategies to help

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4. To account for this, the positive deviance approach being proposed within DMS seeks to make use of a value-added model by accounting for multiple years of data (as consistently available in national education management information system (EMIS)) to help identify any schools/districts that have shown significant and consistent improvement, even where their actual results remain below those expected.

them avoid HIV infection. Participants were a convenience sample of HIV-negative black men between the ages of 25 and 35 who had reported drug use or had reported hazardous alcohol use and anal sex with men in the past six months. Participants were recruited through flyers and palm cards posted at various entertainment, health care and substance use disorder treatment facilities throughout Los Angeles, Craigslist advertisements and Facebook posts on sites of community organizations that serve black MSM (Ober et al., 2018). This is a useful avenue to consider when working with a population that might be at the margin or not easily recognizable. An

alternative that is gaining increasing popularity when attempting to elicit sensitive information without resorting to convenience sampling is conducting list experiments or list randomization methods, in which individuals hide their sensitive answers from the surveyors. These have been used, for instance, to collect measures of physical intimate partner violence in an experimental impact evaluation of the Government of Zambia's Child Grant Program (Peterman et al., 2018), to measure the use of loan proceeds among poor entrepreneurs in Peru and the Philippines (Karlan and Zinman, 2012) and for eliciting illegal migration rates in various countries (McKenzie and Siegel, 2013).



# Recommendations

All the cases highlighted above point to several factors that enabled the successful identification of positive deviant outliers, which can be used in stages 1 and 2 of the DMS research. These are summarized below:



There are important differences in the identification of positive deviant outliers across research settings and methodologies. Some researchers select those outliers through a mix of quantitative and qualitative approaches. For others, the selection of the outliers is carried out by community members with the assistance of facilitators. A first step will be to elaborate an identification strategy for positive deviant schools in the DMS research.



The use of statistical methods to identify positive deviant outliers ought to be accompanied by qualitative appraisals. This should involve fieldwork, interviews, and other qualitative approaches with an array of actors.



In education, the use of value-added models – i.e., comparing the performance of the schools to their ‘expected’ performance based on their student population and context – appears to be a feasible statistical approach for the selection of positive deviant schools.



Statistical approaches should be used in collaboration with education authorities from the central and local context at the early stages of the research to ensure that selected schools have been correctly identified as positive deviant outliers.



Research targeted towards implementation (e.g., the nutrition example in Vietnam or schools with high retention rates in Argentina) involves country partners defining the criteria for identifying positive deviant outliers.



A key tool of participatory approaches for identifying positive deviant outliers may be holding workshops that involve relevant country stakeholders (e.g., for addressing malnutrition in Vietnam or sex trafficking in Indonesia). In these workshops, a facilitator provides background on the research and the positive deviance approach and poses questions so that participants can define what positive deviance means in a given context.



It is possible to apply the positive deviance method to tackle complex social issues (e.g., FGM in Egypt or sex trafficking in Indonesia). It is necessary to consult with in-country partners to fully understand the existing contextual characteristics and cultural sensitivities to address these deeply gendered issues. This can be useful to identify positive deviant outliers, particularly when a foreigner is leading the change.



Consider the use of different sampling strategies to include positive deviant outliers that might be otherwise marginalized, stigmatized or hard to reach in their communities.







## 5. Qualitative research and behavioural sciences

### Identification of positive deviant behaviours and practices

#### 5.1. Qualitative research to identify positive deviant behaviours and practices in education

Three types of qualitative tools have been used to identify positive deviant behaviours and practices in this field: in-depth interview (IDI), focus group discussion (FGD) and classroom observations. This section first describes IDIs and FGDs and focuses subsequently on tools used for classroom observations.

After identifying positive deviant schools in Hidalgo, Mexico, Castillo-Castro (2018) conducted two case studies using semi-structured interviews with students, teachers and principals in two positive deviant schools to identify those behaviours that were making a positive difference in learning outcomes in selected schools. She used the AIMS instrument, developed by Roehrig and Christensen (2010) from the analysis of a seminal series of qualitative studies, on the classroom practices of teachers who succeeded in maintaining high levels of student engagement and corresponding high levels of achievement (details of these studies can be found in the Annex). Specifically, the AIMS interview protocol for teachers captures data under three constructs: *atmosphere*, *instruction* and *management*, including questions on student engagement.

- Questions included in the **atmosphere** construct capture what the teacher does to the physical and interpersonal environment to get and keep students involved in learning; for example,

fostering a sense of community and expressing high expectations of students' performance.

- The **instruction** construct relates to the lessons, activities, and the teacher's instructional style and includes questions on the use of cross-curricular connections, achievement of appropriate challenge level, modelling thinking processes, and academic monitoring, among others.
- The **management** construct relates to the rules, routines and procedures to maintain the instruction moving in an orderly fashion and includes questions about teacher encouragement of self-regulation, behaviour and task monitoring. Also, student engagement questions help capture student participation, excitement, and students' ability to stay on task.

According to the authors, an initial step in the design of the interview instrument was to compile effective teaching practices, as described in existing qualitative studies, and to develop the items based on those practices. Using grounded theory analysis, the authors then sorted the items and developed categories (Bohn et al., 2004; A. D. Roehrig et al., 2008).

For students and principals, Castillo-Castro developed her interview protocols. The protocol for students contained 23 questions grouped into three themes: students' perspectives towards schooling, student-teacher relationships, and experiences in school. Interviews with principals had 13 questions and focused on understanding the perceptions of teachers who might be promoting increased student engagement.



Castillo-Castro's research found that students' engagement, which explained the high scores on the national test, was made possible by the presence of teachers who were trusted by students and who exhibited clarity and academic prowess. She also identified how teacher practices, such as identifying students who were expected to have learning difficulties at the beginning of the year or providing individual monitoring and personalized instruction (especially for those with poor academic skills), translated into higher levels of engagement and higher scores.

The positive deviance research in Namibia used positive deviance inquiry (PDI). This research approach enables researchers to identify the unique practices of positive deviant schools by comparing their practices with those of average-performing schools in similar contexts. The research methods were eclectic and revolved around a case study approach. It involved focus group interviews, observations, discussions (at various levels in the local regional office and schools), and feedback loops to clarify what makes certain schools positive deviant outliers. Around 266 interviews and focus group discussions were conducted with parents, school board members, principals, teachers and learners. Interviews lasted between 1.5 and 2 hours. Questions broadly revolved around several themes, including (i) socioeconomic circumstances of schools; (ii) reasons explaining good performance; (iii) school admission practices; (iv) resources and materials of the school; (v) recruitment of teachers; (vi) learning and teaching practices; and (vii) parental and community involvement.

The study from Namibia found that some of the key characteristics that made positive deviant schools different were related to various principals' characteristics. On the one hand, there are leadership skills, work ethic, and vision of common goals. On the other hand, there are perceptions about the other actors, such as the belief that each student can be successful, and community participation, among other factors.

Another study that identified positive deviant practices and behaviours was conducted in Argentina. After identifying positive deviant schools with high retention rates, in-depth interviews were conducted with teachers, principals and parents. Classroom observations were also carried out (Singhal, 2013). Similarly,

in another study in Uganda and Indonesia, parents of students from the identified positive deviant schools were interviewed by other parents of children from the community (Dura and Singhal, 2009; Singhal, 2013). Four areas of impact with associated positive deviant practices were identified through this exercise: (i) school–family relations – all parents contribute to the school; (ii) teaching methodology – classes are broken up into groups; (iii) degree of community involvement – schools identify community leaders and discuss problems with them; and (iv) nutrition – children are given breakfast instead of lunch.

In Harper's research on successful African American university graduates in the United States, interviews were conducted with black male undergraduate achievers at 42 colleges and universities in 20 states across the country. Each student participated in a 2–3-hour face-to-face individual interview on campus, and some follow-up interviews were conducted via telephone (Harper, 2012). In the interviews, considerable emphasis was placed on the students' pre-college experiences and the role that family members, peers and significant others played in developing their college aspirations. Questions were asked across several major areas, including choosing an appropriate college, paying for college, and engaging with university activities. Harper began by asking each of the 219 black men to talk not only about themselves but also about the experiences of their three best black male childhood friends (for specific questions, see Annex, Harper, 2012, p. 6). Having parents with high expectations who would actively seek out educational resources for their sons and influential teachers who took a personal interest in their students (Harper, 2012, cited in LeMahieu et al., 2017) were some of the behaviours that were found to be associated with the success of these students.

Another study relied on in-depth interviews and addressed several facets of overachievement (including ways over-achievers identify with their status, the etiology of their high achieving status, and the reactions of others as a result of their high achievement) (Shoenberger et al., 2015). Interviews were both inductive and deductive. Once these were complete, the research team conducted content analysis of emergent themes.

In the study by Bohn et al. (2004), which aimed to identify practices associated with effective teaching, 14 teachers who were nominated by their principals as implementing practices that promoted student engagement agreed to be observed. All participating teachers also agreed to be interviewed to fill gaps in the findings derived from the observations. Each interview lasted around 45 minutes and questions touched upon teaching and other procedures the teacher implemented, how well s/he thought the routines worked and the motivations underlying their use. Interviews relied on an ethnographic approach, with the interviewer encouraging teachers to elaborate on their answers as much as possible to depict an accurate and full representation of the classroom (Spradley, 1979).

In Singapore, Cheang and Goh (2018) examined children's perspectives, their thought processes, motivations, and actions in navigating their daily challenges and their interactions with their environment. The authors were interested in how successful children perceived their efforts and resources for managing the stressors, deficiencies and challenges stemming from financial constraints faced at home. The researchers met each child five times over two months. To identify the positive deviant behaviours and practices of outstanding children in real time, they were asked to audio-record the challenges they faced in school, financial shortages, and dynamic relationships with their families at the end of every day. The audio diary method gave participants the option to speak for themselves and to highlight aspects of their daily experiences that were most meaningful to them. Children were asked to maintain a digital audio diary for five consecutive days within one week. The audio diary then served as a base for formulating context-specific interview questions that were targeted at each child. Once interviews were transcribed, analyses of transcripts from audio diaries and interviews were carried out through an iterative interpretation process for each child. As many open codes as necessary were created inductively to capture the experiences of participating children. The study found that the mother-child relationship played a central role in motivating children to do well in school. Their motivation to do well in school was also linked to their desire to offer their families a better life. Children also reported that they actively thought about strategies to motivate themselves to work hard in

their studies. These included achievement affirmations (quotes adapted from books or the internet) and extra-curricular reading (Cheang and Goh, 2018).

Overall, qualitative instruments in the form of interviews centre largely on students' and teachers' experiences, with only a few existing efforts going beyond this level to capture community-level dynamics. One author used an existing interview protocol, while most others reviewed the existing literature to formulate their protocol, adapted to their study's particular needs.

The observation of classroom quality and teacher effectiveness is not new. Many observational measures have been applied to classrooms to identify specific dimensions of teaching and investigate how those dimensions contribute to positive student outcomes (Bell et al., 2019). Some of these observational tools are subject-specific, focusing on maths or language (such as PLATO, M-Scan). In contrast, others are general measures of teaching, such as the Classroom Assessment Scoring System (CLASS), which focuses on the nature of interactions between teachers and children. The Protocol for Language Arts Teaching Observations (PLATO), for example, is designed to capture features of English/Language Arts (ELA) instruction. It covers four instructional domains and 13 elements of instruction identified by research on adolescent literacy and effective instruction in ELA (Stanford University, 2013).

On the other hand, CLASS is not subject-specific and is an instrument that can be used to assess classroom quality. Its tools, which focus on interactions between teachers and students, include four cycles of 15-minute observations of teachers and students by a certified CLASS observer. CLASS decomposes classroom interactions into three domains: emotional support, classroom organization and instructional support (Bell et al., 2019). Observations are rated using a manual of behaviours and responses (University of Virginia, 2017).

Another of these instruments is TEACH, a tool developed by the World Bank which focuses on the main elements that lead to learning, regardless of classroom conditions and culture (Molina et al., 2018). TEACH, which has been applied in classroom observations in LMICs, focuses on two main dimensions: (i) the time that teachers spend on learning and the extent to which

### Box 3. Considerations in the different stages of qualitative data gathering

This box provides a few brief remarks to be considered when collecting qualitative data. While this is only meant to be illustrative of a few good practices, numerous resources exist that provide detailed guidance for conducting mixed-methods research, of which qualitative research is only a part. Given that the approach to be used in DMS research employs mixed methods, some helpful resources have been listed at the bottom of this box.

#### Stage 1. Protocol preparation

- Protocols should be designed in relation to the research questions and methodology guiding them.
- Protocols should be piloted on participants with characteristics similar to those of the target group to refine how questions are asked.
- Particular attention should be devoted to the role of gender both when preparing and piloting protocols and how gender issues are perceived and contextualized within a specific group or community.
- If working in another language, it is good practice to back-translate protocols.
- If the research is to be published, a comprehensive ethics protocol should be prepared and submitted for review to an Institutional Review Board or Ethical Review Board.

#### Stage 2. Sources and sampling

- Qualitative sampling is generally purposive, meaning that participants are selected specifically because they are likely to generate useful data.
- Total number of participants in the qualitative process does not indicate whether the data are representative. Qualitative research does not aim for statistical generalizability.

- Qualitative data collection ends when reaching a saturation point – i.e. when enough data are collected to provide sufficient explanation on the subject in question.
- Disconfirming cases – those that are in opposition to the outcome studied – should also be included in the sample. For example, if exploring mechanisms that resulted in high foundational learning outcomes, cases where foundational learning outcomes were low should also be included.

#### Stage 3. Data collection

- There should be a clear set of procedures and related documents (e.g., interview, or FGD protocols).
- It is desirable to have trained personnel with previous experience in qualitative methods, but training on the research protocols should also take place. In an ideal scenario, those involved in gathering the data should be the same people that designed the study.
- An adequate time frame, including time to identify participants and collect data with them, is necessary to identify or contact research participants.
- Field team members need to discuss and be aware of their reflexivity and positionality and how these elements can affect interactions with participants.
- Time needed for quality data gathering and the demands on participants' time also needs to be considered.

#### Stage 4. Data coding and analysis

- Analyses should follow the purpose of the study and the research questions.
- Analyses usually include coding the data, identifying patterns among small amounts of information, associating data with common themes/concepts/threads, and looking for variation. Analyses can be carried out from two



different approaches: a) inductive thematic analyses: the categorization derives directly from the collected information; b) deductive thematic analyses: the categorization is carried out from a pre-established theoretical model (Braun and Clarke, 2006; 2012).

- According to the study's objectives, codes in the thematic analysis identify a specific characteristic of the data with semantic or latent content. Codes constitute the most basic units of analysis and are made up of segments or elements of raw information that reflect the studied phenomenon (Braun and Clarke, 2006)
- Coding is traditionally done manually, but there are computer-aided analysis packages (e.g. ATLAS.ti, NVIVO, etc.).
- Secondary analyses of data where the data are collected by one team and analysed by another are the most challenging as the analyses are removed from the cultural and linguistic context.

*Adapted from Peiffer (2012)*

#### **Mixed-methods resources:**

- Creswell, J. W. and V. L. Plano Clark, *Designing and Conducting Mixed Methods Research*, Thousand Oaks: SAGE, 2011.
- Greene, J. C., *Mixed Methods in Social Inquiry*, San Francisco: Wiley & Sons, 2007.
- Hesse-Biber, S.N., *Mixed Methods Research: Merging theory with practice*, New York: Guilford Publications, 2010, pp. 75–82.

students are on task; and (ii) the quality of teaching practices that help children develop cognitive and socio-emotional skills (see **Annex**). The second dimension is further subdivided into three corresponding areas: classroom culture, instruction and socioemotional skills. Together, these three areas have nine corresponding elements that point to 28 behaviours. Each of these tools involves sampling a short period of a given lesson. They are systematic and involve trained observers looking out for behavioural cues present in classrooms (Molina et al., 2018). In a review of observation tools in education, Bell et al. (2019) found that existing observation tools include at least nine dimensions of effective teaching. These include safe and stimulating classroom climate, classroom management, motivation of students, explanation of subject matter, quality of subject-matter representation, cognitive activation, assessment for learning, differentiated instruction, teaching-learning strategies, and student self-regulation (Ibid.).

Another tool for classroom observation was developed by the OPERA (Observation des Pratiques Enseignantes dans leur Rapport avec les Apprentissages des Élèves) action research programme. This tool aims to describe, explain and understand classroom dynamics in schools in sub-Saharan Africa. For instance, in Burkina Faso (2015), the OPERA instruments had four domains and eleven dimensions for classroom observations, including indicators for teachers and students. The first domain focused on non-verbal interactions comprising positive and negative emotional interactions. The second domain collected aspects of the relational climate through three dimensions: (i) positive climate (empathy and trust); (ii) negative climate; and (iii) over-control and excessive rigidity in teaching. The third domain analysed the teachers' pedagogical interventions. It included three dimensions: (i) authority and conflict management, (ii) management of learning conditions, and (iii) pedagogical style and teachers' strategies and methods. The last domain focused on the didactic management of learning and academic contents, and it consisted of (i) the epistemology and development of class contents and conceptualizations; (ii) the didactic management of contents; and (iii) the language use and adequacy (Altet et al., 2015).

Research on school climate, which is broader than classroom observation, may also be helpful in developing classroom observation tools to identify positive

deviant behaviours. In a review of school climate, Thapa et al. (2013) proposed several areas/dimensions of school climate that can be reflected in observation tools: (i) safety; (ii) relationships; (iii) teaching and learning; and (iv) institutional environment. The dimension of safety explored the evidence on physical and socioemotional safety and rules and norms. Relationships centred on respect for diversity, school connectedness, social support, students' race/ethnicity, gender composition and perceptions of the school climate. Like the dimensions of effective teaching, the teaching and learning dimension focused on social and emotional learning, support for academic learning, and students' perception of the school climate. Institutional environment is centred on the physical surroundings of the school, resources and supplies. As safety emerges from this literature as an important dimension of school climate, the question remains whether the identification of positive deviant schools should also consider the selection of safe schools. Surveys containing questions on school violence – such as the Global School-based Health Survey (GSHS) – can be used to identify schools with low rates of bullying victimization and risky behaviour participation (see **Annex**).

The tools described above have not generally been used in the positive deviance research on education cited here. Instead, these studies have relied on their classroom or school observation tools, yet they have focused strongly on teacher practices. It is, though, possible to consider adopting the instruments such as TEACH to identify positive deviant behaviours. In Namibia, for example, classroom observations using a structured lesson observation tool were conducted on top of interviews and FGDs described above. The tool was a qualitative, mostly open-ended instrument asking the researcher to observe topics such as teacher's planning and preparation, teacher's activities and instructions during lesson delivery, methods and signs of good practices used, student activities, and responses, among others. At the end of the form, researchers were asked to provide an overall assessment of the teacher's performance in the classroom observation indicator by ticking the appropriate box (not achieved, partially achieved, achieved, and fully achieved). In the positive deviance project in Argentina, teacher–parent teams were interviewed and asked to make general observations regarding physical facilities in positive deviant schools, food distribution, general

cleanliness, and condition and utilization of school materials (Dura and Singhal, 2009; Singhal, 2013). No structured tool was used for school observations. In the study by Bohn et al. (2004), which aimed to identify practices associated with effective teaching, 14 teachers nominated by their principals as implementing practices that promoted student engagement agreed to be observed. One to two observations lasting three to four hours each were conducted, with the researchers deciding how well the teachers taught relative to the criteria defining effective teaching practices in the literature<sup>5</sup> (Ibid.). Although the principals nominated 14 teachers, only six were invited to participate in a year-long study to follow. During the first three days of school, their teaching was recorded on video to determine how teaching during the first few days of school differed for exceptionally effective teachers compared to less effective ones. Videotaping focused on teachers explicitly and was captured from such an angle that students were rarely visible in the video (Ibid.).

Researchers first watched the videos for each teacher to record their observations verbatim into transcripts and develop categories that described the teaching induced from the observations rather than decided in advance of the study. Some of the categories generated were procedures, physical environment, praise, and instruction. The researchers coded the videos until no new categories emerged, which took about four to five rounds of coding per teacher. Three to four follow-up observations were made in each classroom, with researchers keeping field notes as teaching took place. Researchers paid attention to student engagement and self-regulation and focused on whether students worked productively and acted independently. Engagement was monitored during each visit by calculating the percentage of students who were working on academic tasks at the beginning and end of each lesson and several times in the middle of the lessons (Bohn et al., 2004).

5. This literature found that instruction in effective classrooms is very different from instruction in less effective classrooms, with effective teachers spending more time teaching and using more diverse instructional techniques than less effective teachers; with teachers constantly teaching, varying the format among the whole class and teaching 10 to 20 skills in an hour; and more consistently using a teacher-as-coach model in which teachers also monitor how well students use what was taught and provide additional support.

Table 1 summarizes areas of interview questions and observational approaches by actors that may help to identify positive deviant behaviours. Classroom and school observation tools and full interview protocols can be found in the Annex.

**Table 1. Areas of interview questions to identify positive deviant behaviours/practices**

	<b>Dimensions/area of interview questions</b>	<b>Question sample</b>	<b>Annex reference</b>
<b>Teachers</b>	Instruction – Questions on lessons activities, teachers’ instructional style, planning and preparation, student activities, and responses	Do you connect X subject (e.g., Mathematics) activities with other subjects in the curriculum? Can you give me an example?	Castillo-Castro, 2018
	Classroom atmosphere – Questions on physical environment to keep students learning	What do you think is important to consider in keeping students engaged in the content and the activities?	Castillo-Castro, 2018
	Management – student participation, rules, routines, and procedures to maintain orderly instruction	Briefly describe your routines/schedule for a typical day.	Castillo-Castro, 2018
<b>Principal/ Headteacher</b>	Management – headteacher practices	What are some effective practices that headteachers in your school enact with respect to the management of teachers? How does the headteacher at your school ensure the smooth coordination of teachers? Are there some practices that you find not effective? If so, could you give one or multiple examples? If you worked at a different institution before and your headteacher was a male (female), do you believe male (female) headteachers enact different practices relative to female (male) ones?	UNICEF, 2016
<b>Students</b>	Perspectives towards schooling	Do you like to come to school? Why?	Castillo-Castro, 2018
	Student–teacher relationship	What do you like about your teacher?	Castillo-Castro, 2018; Thapa et al., 2013
	Student–student support	N/A	Thapa et al., 2013



	<b>Dimensions/area of interview questions</b>	<b>Question sample</b>	<b>Annex reference</b>
<b>Students</b>	Experiences in school	Which are the things that help you learn during your classes?	Castillo-Castro, 2018
		Do teachers encourage group work in class? How frequently? When you conduct group work, are you more likely to work with your male or female peers? Why?	
		Do you feel teachers are treated with respect by your peers? Do you feel male and female staff at your school are treated equally by your peers?	
		Do you feel you learn equally when your teacher is a male or a female?	
		In your perspective, is there something that male and female teachers do differently when teaching?	
	Roles of family members and peers in supporting learning	How were aspirations for post-secondary education cultivated among black male students? (Harper)	Harper, 2012 Cheang and Goh, 2018
	Extracurricular activities	N/A	Cheang and Goh
	Safety	Questions on bullying victimization, perpetration, and bystander behaviour (see HSBC, PISA, GSHS for sample questions on bullying). Questions on enforcement of school rules.	Thapa et al., 2013
<b>Regional education officers</b>	Teacher performance management and development	Does the Department of Education prescribe policy for the performance appraisal of teachers? What happens when a teacher may be found not performing optimally?	UNICEF, 2016
		Do the teachers from positive deviant schools attend continuous professional development sessions each year? Is there Departmental policy to support this?	
		What is the role that the Regional Office plays in the CPD of teachers?	
<b>Parents and/or guardians</b>	Socioeconomic circumstances of the family/the community	What are the main forms of work and/or other income-generating activities of the community?	UNICEF, 2016
		Can you describe the living conditions of the community in terms of availability of basic social infrastructure such as access to electricity, water, sanitation, health facilities, and transport?	
		How do people in this community see formal education? What do they think about it?	
		What challenges do families in this community face when they send their children to school?	
		What types of families face the most challenges? What challenges do they face? Why do they face more challenges than other families?	

	Dimensions/area of interview questions	Question sample	Annex reference
Cross-cutting*	Mentoring, management, and monitoring capacities of head teachers	-Questions related to the following aspects: The headteacher discourages teacher absences. The headteacher always records teacher absences.	Karamperidou et al., 2020
	Training in personnel management and leadership skills	-Questions related to the following aspects: The headteacher encourages teacher training. The headteacher supports teachers' involvement in school's decision-making. The headteacher manages the school and the teachers well.	Karamperidou et al., 2020
	Recruitment and selection of teachers	Who is responsible for the recruitment and selection of teachers for your school? What are the process and selection criteria used? Do you have a mentoring process for novice teachers/newly qualified teachers? Describe. Which practices do you enact to ensure that male and female staff are treated equally within your school?	UNICEF, 2016
Cross-cutting*	Public Support	What is the frequency of engagement you have with the Regional Office officials? What support do you receive from the Regional Office? Do the school and its learners receive support from departments other than Education, for instance, Health, Social Welfare, Agriculture, etc.? If so, what kind of support is this? Would you be able to say whether, in your opinion or observation, this support contributes to the performance of learning, or is it insignificant? Give reasons for your opinion or observation	UNICEF, 2016
	School administrative planning processes	Questions on school improvement plans: planning, monitoring, and reporting.	Karamperidou et al., 2020
	Socioeconomic circumstances of the school (teachers, principals)	Principals: Can you describe the social and economic circumstances of the community and parents in particular that the school serves? What is the main form of work and/or other income-generating activities of the community?	UNICEF, 2016
	Reasons explaining good performance (teachers, students, principals, parents)	Teachers: Can you describe from your perspective what a good school is like? Given your description, how does your school fit that description?	UNICEF, 2016

	Dimensions/area of interview questions	Question sample	Annex reference
	School admission practices (principals, teachers, students)	Students: How did you get admitted to the school? Did your parents choose the school because it is near home? Did you get in because you were doing well at your previous school? Do all the children in the community get a place at this school or not? Do you feel that boys and girls in your community have the same chances to get a place at this school or not?	UNICEF, 2016
	Resources and materials of the school (principals, teachers)	Teachers: Does every learner have access to the textbooks needed for learning? Explain. What does the school do to ensure that the school has an adequate supply of textbooks? Do the learners have access to additional learning materials through a school library, community library, or internet access?	UNICEF, 2016
<b>Cross-cutting*</b>	Parental and community involvement (teachers, principals, parents)	Students: How often are your parents or guardians called for meetings to talk about your schoolwork and performance? Do many parents attend these meetings? Who is more likely to attend school meetings among your parents or guardians?	UNICEF, 2016
	Learning and teaching practices (students, parents, teachers, principals)	Parents: Do you give your children help with homework? If so, do both you and your spouse/partner give your children help with homework? If not, why? If you do not help your children directly, is there someone else who does it?  Students: Do teachers encourage group work in class? How frequently? When you conduct group work, are you more likely to work with your male or female peers? Why? Do you feel teachers are treated with respect by your peers? Do you feel male and female staff at your school are treated equally by your peers?	UNICEF, 2016

\*Should be asked to more than one group



## 5.2. Qualitative methods for the identification of positive deviant behaviours and practices in other fields

As in education research, other fields have typically relied on qualitative methods, including interviews and participant observation, to identify positive deviant behaviours. In Vietnam, for example, after identifying well-nourished children from poor households, community members conducted focus group discussions in the villages to identify practices that could explain the success of the identified positive deviant cases. Asking parents of well-nourished children what strategies were being employed to make a difference did not prove effective. Instead, community members were tasked with directly *observing* the behaviours of the positive deviant mothers, when they were preparing meals for their children. Through observation, the community was able to identify that mothers in positive deviant communities took two specific actions that were different from those of the other members of the community.

- Firstly, they collected tiny shrimp and crabs from paddy fields and added them to sweet potato greens in their children's meals. This food was accessible to everyone, but most community members believed it was inappropriate for young children due to cultural reasons (Sternin and Choo, 2000).
- Secondly, positive deviant mothers were feeding their children three to four times a day rather than twice a day, as was customary. Observation of how meal preparation was taking place by the positive deviant volunteers provided invaluable information for identifying positive deviant practices (Pascale et al., 2010). There were often discrepancies between the practices people were describing and what they were doing.

In the research of Ober et al. (2018), the authors conducted 29 in-depth qualitative interviews based on a convenience sample of black HIV-negative men engaged in high-risk practices to identify behaviours helping young men to avoid infection. Participants were first screened over the phone to determine their eligibility for the study. Confirmed HIV-negative men participated in a 90-minute interview. A qualitative interview guide describing language, tone and overall approach

was developed and sent to two community members that have the mentioned characteristics and two consultants (researchers who had worked on HIV risk among high-risk young men). The interview covered three main areas: life management, social networks, and HIV and health. The interviewer asked open-ended questions followed by closed-ended questions to avoid biases in the response. Interviews were audio-recorded and transcribed, and standard qualitative methods were used to identify themes that indicated adaptive strategies. The software ATLAS.ti was used for the coding process.

In Indonesia, another research team conducted field visits to two villages in East Java to gain a contextual understanding of how the positive deviance approach was implemented to address trafficking. Researchers spent one full week in Indonesia, conducting interviews with key Save the Children staff in Jakarta and Surabaya, and collecting data with the help of six to eight local interviewers in two locations. First, the authors conducted 24 in-depth interviews with key informants, including project implementers and managers, target beneficiaries, family members and community leaders. Then they conducted participatory sketching with key informants in both locations as the main data-collection activity. The use of participatory sketching activities was appropriate since the topic of inquiry (trafficking) was quite sensitive, and the participants in the research had low literacy levels.

Furthermore, participatory sketching allowed participants to take their time to respond to questions, which resulted in richer and deeper explanations (Dura and Singhal, 2009). This research found that several strategies and practices of positive deviant families reduced their vulnerability to girls' trafficking. These included:

- (i) families engaged in a different income-generating activity, such as cultivating different crops;
- (ii) daughters had been helped to establish a small business;
- (iii) the risks of working in this industry were openly discussed in the family; and
- (iv) daughters were allowed to work outside the village, but the employer and the nature of the work were carefully investigated by the family, among others. After identifying the practices, a community meeting was held to build consensus on how to act on them.

# Recommendations

The cases highlighted above point to several recommendations that can be applied in the DMS research to identify positive deviant behaviours (stage 3). These are summarized below:



Identifying positive deviant behaviours and practices has often been preceded by a quantitative approach for selecting positive deviant outliers (e.g., Peiffer, 2012; Castillo-Castro, 2018).



Most instruments for identifying positive deviant behaviours and practices rely on the use of qualitative instruments – including FGDs and interviews – that were created on an individual basis to fulfil the research aims (only Castillo-Castro used an existing interview protocol). Developing an interview guide will therefore need to be context-specific. In general:



Questions in the interview/FGD guides should be posed to various actors: teachers, students, principals, parents and community members (see Table 1 for sample questions).



Questions in the interview/FGD guides should be posed in a way that is respectful of societal customs and cultural traditions, with particular respect to the role of gender.



The interview/FGD questions should cover several dimensions for each of these actors. For students, for example, this means posing questions on teacher–student relationships, student–student relationships, male–female student relationships, male–female staff relationships, and learning experiences, among others.



Interview/FGD guides should be shared with local experts and/or community members to ensure that all questions are appropriate for the local context.



Interview/FGD guides should be long enough to capture valuable insights but should not generate participant fatigue. Most interviews/FGDs last between 45 minutes and an hour.



Although less common, ethnographic approaches implementing unstructured interviews or case studies (e.g., UNICEF, 2016; RISE, 2019) can be a potential avenue to generate more detailed descriptions of classroom practices.



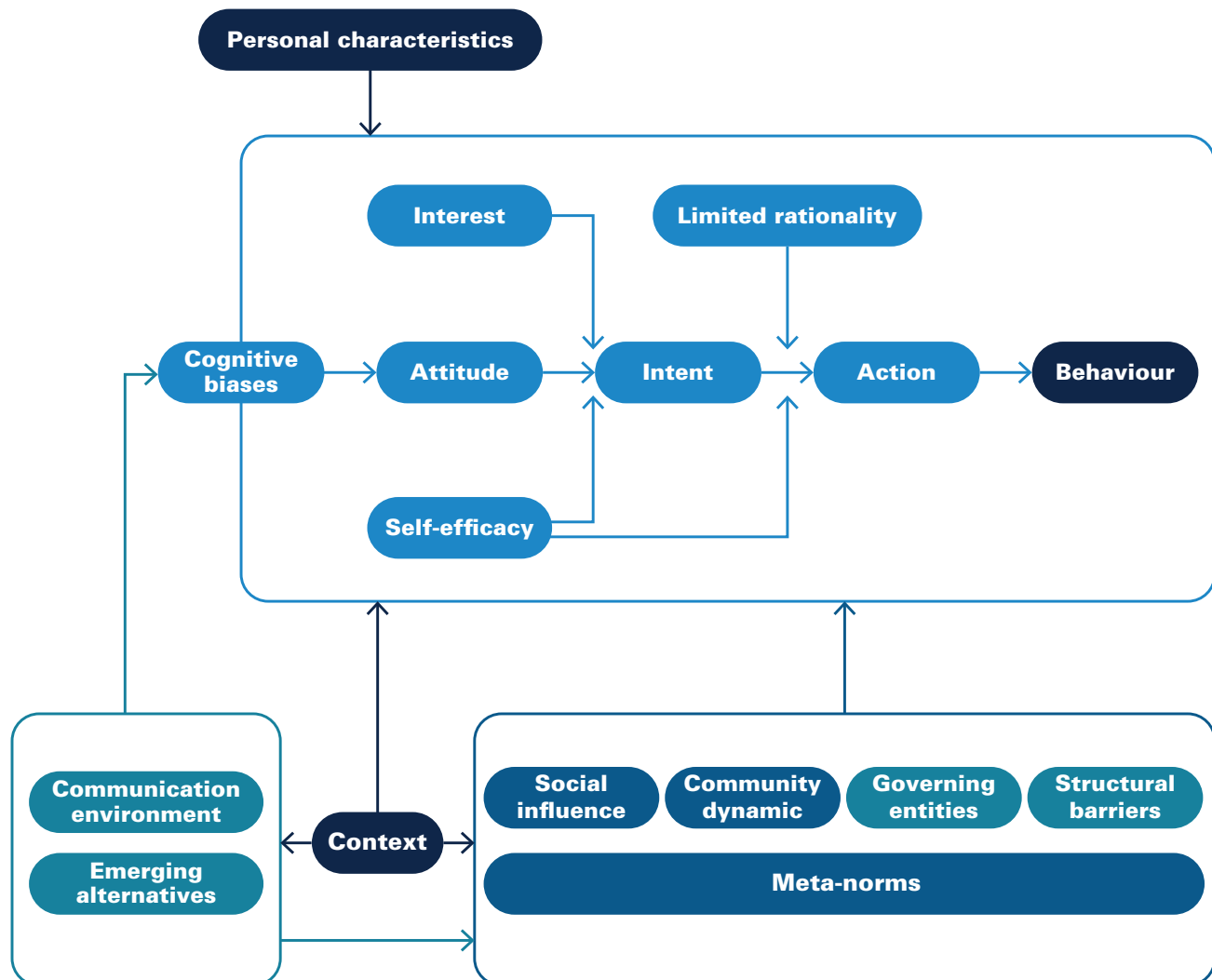


The research on the reduction in bribery rates by Peiffer et al. (2019) relied on case studies through fieldwork conducted in two outlier countries. In Uganda, where research centred on reducing bribery in the health sector, 48 respondents were interviewed, including doctors, nurses and administrators employed in the public health system and government officials from the health sector and other departments. Surprise audits, highly visible arrests of health sector workers and public shaming were some of the behaviours identified that contributed to reduc-

ing bribery in this sector. In South Africa, for the second case study, researchers identified respondents through snowball sampling, which uncovered a large pool of expert respondents, including academics and researchers, government representatives, journalists and South African Police Services (SAPS) members willing to share their insights.

A total of 35 participants were interviewed through in-depth, semi-structured interviews, with some participants being interviewed on several occasions.

**Figure 2. UNICEF Behavioural Drivers Model**



- Psychological drivers: cognitive biases, interest, attitude, self-efficacy, intent, limited rationality, and action.
- Sociological drivers: social influence, community dynamics, and meta-norms.
- Environmental drivers: communication environment, emerging alternatives, governing entities, and structural barriers.

Source: Petit, 2019

### 5.3 Behavioural sciences to understand positive deviant behaviours and practices

To analyse positive deviant behaviours and practices, their underlying drivers and motivations must be understood. Several models provide a guide for understanding behaviours and their drivers (e.g., The COM-B Model of Behaviour (Social Change UK, 2019), The Integrative Model of Behavioral Prediction (Fishbein and Yzer, 2003), etc.). Still, for the DMS research, the UNICEF Behavioural Drivers Model will provide the main guidelines (see **Figure 2**).

**Figure 2** portrays a model whereby behaviours arise from unique or isolated causes and the combination of psychological, sociological and environmental factors. This model suggests that “the psychological elements are organized along an individual decision-making pathway, influenced by the social and structural contexts in which these decisions are made” (Petit, 2019). This model provides a useful framework to understand the relationship between the various factors that may be driving certain behaviours. The model indicates that psychological elements of individuals are organized in the decision-making pathway, influenced by the social and structural contexts that surround them, and that these factors work simultaneously and interact with each other (Ibid.).

For instance, if the model were used to understand teacher absenteeism, it would consider the following:

#### 1. Individual factors:

- i. The cognitive biases that influence the way teachers decide to be absent.
- ii. Teachers’ interest in attending school, mediated by several factors such as feasibility, perceived risks, etc.
- iii. Attitudes towards the outcomes of teacher absenteeism, affected by values, beliefs and past experiences, among other elements.
- iv. Self-efficacy and teachers’ beliefs about attending school and overcoming the impediments that hinder their attendance.
- v. Limited rationality could manifest through different biases. For instance, the present bias could make teachers give stronger weight to payoffs in the present time and

underestimate those from the future, thereby driving them towards absenteeism by not considering the long-term effects on students.

#### 2. Collective factors:

- i. Social influence (e.g., if teachers perceive that other teachers tend to be absent or that they hold attitudes that approve being absent).
- ii. Community dynamics (e.g., the perception of collective self-efficacy in which community members believe they can achieve a certain behaviour).
- iii. Meta-norms (i.e., a set of ideologies and unwritten rules that play an important role in people’s culture and identity). In this case, one of the meta-norms could be affected by gender roles. For example, in many cultures some barriers prevent women from attending their work regularly due to the prioritization of domestic activities.

#### 3. Other factors: Communication environment, emerging alternatives, governing entities, and structural barriers.

For the DMS research, we will only focus on behavioural drivers related to individual and collective factors. The following paragraphs describe the differences to be considered for each of them.

At the individual level, Kahneman (2011) suggests that there are two different forms of information processing: fast and automatic (known as system 1) and other more reflective and slower, which is traditionally assumed to be ‘rational’ (system 2). Due to the large number of decisions that must be made daily, it would not be useful or efficient to analyse all decisions exhaustively. In this sense, it is possible for individuals to unconsciously revert to system 1; that is, to use a series of mental shortcuts formally known as heuristics (Kahneman, 2003). Generally, this helps people process information more efficiently. However, it sometimes also makes people vulnerable to errors of perception, interpretation of information, or evaluation of situations (Sunstein, 2020), giving rise to cognitive biases or unconscious drivers, which influence decision-making (Tversky and Kahneman, 1974).

Considering that individuals often face more information than they can process, identifying cognitive biases and mental shortcuts or heuristics is the first step in generating strategies that aim to modify environmental and design factors (Tversky and Kahneman, 1974). Thus, a wide variety of cognitive biases and heuristics have been identified, based on their importance and frequency of use:

1. **Representativeness heuristic:** Describes a situation where people tend to estimate the probability of uncertain events by how similar they are to other more certain events (Tversky and Kahneman, 1974).
2. **Availability heuristic:** Describes the tendency of people to estimate the probability of a future event based on previous similar representative events that come to mind (Tversky and Kahneman, 1974).
3. **Adjustment and anchoring heuristic:** Suggests that people usually make estimates based on an initial value and that individuals tend to use this initial value as a reference point (Tversky and Kahneman, 1974).
4. **Confirmation bias:** Indicates that the selection or interpretation of new information is based on previously held beliefs or expectations (Nickerson, 1998).
5. **Risk aversion:** Describes a situation where people tend to opt for options that they consider safer than those that pose a potential risk or uncertainty (Ball et al., 2010).

The strategies to address these cognitive biases and mental shortcuts, also known as 'nudges', are designed to modify specific individual behaviours, often by simplifying the tasks and processes involved in making decisions (Sunstein, 2014). For example, in student absenteeism, most parents underestimate the importance of their children attending school. In this scenario, the present bias (people give more weight to immediate rewards while placing less value on long-term consequences) is relevant (O'Donoghue and Rabin, 1999). Teachers in Madagascar held meetings with students and their parents to present statistics on the economic returns per year of schooling in the country to tackle this bias. The data were presented verbally and through letters with graphic content. The provision of this information resulted

in a 3.5 per cent increase in student attendance (Nguyen, 2008).

While individual factors are key, how people act also depends largely on the social influences and community dynamics surrounding them, as often most individuals make efforts to conform to social/societal expectations that vary according to gender, age, context, etc. (IRS, 2017). Several authors confirm the importance of understanding collective factors in behaviour because people hold socially shared notions about how one should or should not behave in certain scenarios, and group thinking guides decisions and actions in many instances (Cialdini et al., 1999; Paluck, 2009).

One of the best-known methodologies to identify whether the behavioural motivations are individual or collective was developed by Bicchieri, using criteria to distinguish and classify them. On the one hand, individually driven behaviours are not affected by others. On the other hand, behaviours with collective motivations would be based on conditional preferences; that is, they depend on the beliefs and actions of others (Bicchieri, 2016).

For example, teachers' attendance could be motivated by individual reasons such as intrinsic motivations (e.g., job satisfaction, feeling valued or appreciated, enjoy teaching students, etc.) or extrinsic motivations (e.g., their salary depends on the number of days they go to school, etc.) (Martin, 2018). However, teachers' attendance could also be motivated by social reasons such as the belief that attending is what they should do or because they think it is what other teachers do. When analysing collectively motivated behaviours, a gender lens should be adopted since social expectations are often different across gender.

According to Bicchieri (2016), there are two kinds of motivations conditioned by the social environment: descriptive norms and social norms. The former is only based on descriptive expectations (what a person thinks others do regarding a specific behaviour). In contrast, the latter is based on both descriptive and normative/injunctive expectations (what a person thinks others should do). This difference has practical implications because interventions vary in focus depending on what type of social conditional motiva-



tion individuals seek to modify. For example, the social norms framework can be used to correct pluralistic ignorance. This happens when people do not express their real position because they mistakenly believe that their personal opinions go against the majority's beliefs. The solution occurs when the group learns that, in fact, they all shared the same opinion that they initially considered unpopular.

For instance, in the case of girls' schooling in Vietnam, a descriptive norm would be that girls believe that other similar girls from their community do finish school. In contrast, a normative expectation would be that girls believe that other relevant people in their community think they should finish school.

This occurred in a society that perceives that girls' social values and gender roles restrict their educational trajectories. For example, only 3.4 per cent of them are enrolled in school because their parents and society think of them not as potential students but as someone else's wives due to cultural reasons (Jones et al., 2016).

Furthermore, it is important to highlight the importance of the messenger effect, which means that the people or groups of people who send the messages can significantly influence their reception (Kassin,

1983). Thus, those people whose opinions and behaviours matter most to influence how one makes decisions must be identified; that is, the reference network (Petit and Zalk, 2019). For example, in the previous case, the reference network of the female students was constituted by other girls within their community (Jones et al., 2016).

Bicchieri (2016) describes in detail the steps to identify whether there are socially conditioned motivations or not and whether these can be classified as social or descriptive norms:

- Measure the prevalence of the behaviour in the community of interest.
- Measure what individuals believe is real (factual beliefs).
- Measure what individuals believe is right, wrong or should be done (personal normative beliefs).
- Measure what people believe others are doing within the community of interest (empirical expectations).
- Measure what people believe others should do within the community of interest (normative expectations).
- Verify with hypothetical scenarios whether preferences are conditional on social expectations, both empirical and normative.



# Recommendations

From an integrated understanding of behaviours and their various individual and collective drivers, below are some key lessons for the behavioural analysis to be carried out in stage 3 of the DMS research:



Ensure that the sample of schools allows the comparison of the adopted practices/behaviours between positive deviant and non-positive deviant schools operating in the same cultural context. Doing so will make it possible to i) identify positive deviant practices that are feasible to adopt in a given context and ii) find out – with national stakeholders – the incentives for non-positive deviant schools to adopt the positive deviant schools' practices (including through school-to-school peer learning, showing by examples, etc.).



Researchers and implementers may hold biased views or be affected by social influences in the research process. Thus, they should try to identify biases and social influences and be aware of them as much as possible.



Do not assume the reasons or motivations for behaviours. Instead, perform a comprehensive analysis that allows differentiating attitudes, perceived norms, and self-efficacy – particularly by comparing positive deviant schools and non-positive deviant schools – and recognizing them in the target population accounting for demographic differences, particularly those based on gender.



Consider the limited rationality of the actors. Behaviours are often unconscious and conditioned by the environment; therefore, identify how to facilitate and simplify behaviour compliance.



There are collective aspects that affect our behaviours. Social norms that encourage or restrain specific practices should be identified.



When dealing with socially conditioned behaviours, the focus is on who is influential (reference network) for the people whose behavioural change is being targeted.

Behavioural sciences show that sometimes there is a disconnection between what people think, feel, say and do. Thus, it is important to include observational methods to understand them whenever possible.

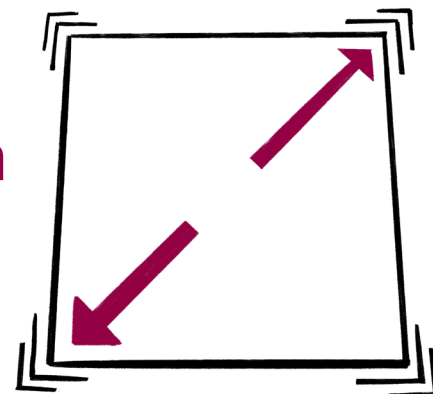






# 6. Behavioural sciences, implementation research and scaling science

## Identification of scaling levers



Behavioural sciences, implementation research and scaling science will be used in the final in-country stage of the DMS research. After identifying the behaviours and practices implemented in positive deviant schools (and not implemented in the non-positive deviant schools), the next task is to understand why these positive deviant behaviours and practices are not more widespread and what can be done to encourage and incentivize their uptake in other schools. Identifying these scaling barriers, levers and incentives will be the focus of the fourth stage of the DMS research (see **Figure 1**).

### Box 4. BASIC methodology

The BASIC methodology uses a process that guides the policymaker through Behaviours, Analysis, Strategies, Interventions and Change to apply behavioural sciences as follows:

1. **Behaviours:** define in as much detail as possible the behavioural elements of the problem.
2. **Analysis:** review the available evidence to identify the behavioural drivers of the problem.
3. **Strategies:** identify behaviourally informed strategies that will effectively change the identified behaviours.
4. **Interventions:** Design and implement an intervention to test which strategy best addresses the problem.
5. **Change:** develop plans to scale and sustain the behavioural change.

Source: OECD, 2019b

### 6.1. Behavioural sciences to change and scale positive deviant behaviours and practices

Once positive deviant behaviours and practices are recognized, and their behavioural drivers are understood, the next step is to identify the incentives and levers for optimal scale based on behavioural sciences, according to the context. The OECD provides “a process-oriented framework for integrating behavioural sciences knowledge, theories, and methods when designing and implementing public policy” from the beginning to the end of the policy cycle (OECD, 2017).

A vast literature provides recommendations for applying behavioural insights to modify or encourage a certain practice within a given population. Among them, the EAST framework indicates that it is essential to consider four characteristics: easy, attractive, social and timely (EAST). The Behavioural Insights Team (2014) explains those principles for policymakers and practitioners:

1. Make it easy
  - Harness the power of defaults.
  - Reduce the ‘hassle factor’ of taking up a service. Reducing the effort required can increase uptake or response rates.
  - Simplify messages.

Example: When Chilean parents received information through text messages about their children’s attendance, grades and classroom behaviour, the students achieved a higher grade point average (GPA) and increased their attendance rates (Berlinski et al., 2021).

## 2. Make it attractive

- Attract attention. People are more likely to do something that captures their attention.
- Design rewards and sanctions for maximum effect.

Example: The Peruvian Ministry of Education offered non-monetary incentives (virtual diplomas) to teachers whose students achieved a high academic performance and principals who stand out for their good management practices. The students of these schools registered better results in a standardized test than the control group (MineduLAB, 2018).

## 3. Make it social

- Show that most people perform the desired behaviour.
- Use the power of networks.
- Encourage people to commit to others.

Example: Vietnamese parents are more likely to enrol their children in extra classes when they perceive that most students in their children's class are attending them (Baulch, 2012).

## 4. Make it timely

- Prompt people when they are likely to be most receptive.
- Consider the immediate costs and benefits.
- Help people plan their response to events.

Example: A text message campaign intended to make school managers use the allocated budget to improve school infrastructure contained different types of messages depending on the time of year they were sent (Dustan et al., 2019).

Additionally, in contexts where people are anxious and fatigued, a fifth characteristic is added to this framework: Fun, making the acronym 'FEAST'. With this new trait, messages or little changes that can include fun can contribute to making measures sustainable over time. For example, in some Philippine schools, the 'fun' element was introduced by painting footprints that created a path from the toilet stalls to the hand-washing areas to lead students to wash their hands after using the bathroom (Battle et al., 2021).

Also, to identify the levers for scale, it should be noted that while decision-making is sometimes based on rational and deliberative processing, it can also be based on automatic responses. Thus, to make compliance easier, individuals should be helped with contextual elements and cues in the environment (IRS, 2017).

Nudges are one of the most common tools to change behaviours. They should have three basic characteristics: (i) they never take the form of manipulation or deception; (ii) they require policies that seek to protect individual freedom to focus on improving the well-being of the people to whom the intervention is directed; and (iii) they need to be evidence-based (Sunstein, 2014).

The use of nudges and related innovations keeps increasing as more research is being conducted. Here are some examples of nudges applied in the educational field:

- *Default rules*: Preset options and/or courses of action. For example, enrol parents automatically into SMS information campaigns to inform them about their children's performance (Bergman et al., 2020).
- *Simplification*: Provide programmes and services with easy, navigable, friendly and intuitive information. For instance, one intervention reduced the information gap among Malawian parents about their children's performance at school by delivering report cards with more digestible information about it (Dizon-Ross, 2019). Similarly, the DMS initiative, evaluated by Deloitte, simplified the content of profile cards to assess school performance in Madagascar. The initiative managed to make the content friendlier to parents and school committees and accessible to people with low literacy levels (UNICEF, 2019).
- *Framing*: Present information in an attractive way and incentivize action. For example, a small cash transfer labelled as an 'education support program' made by the Moroccan government to fathers of school-aged children positively impacted increasing student attendance (Benhassine et al., 2015).
- *Social comparison*: Inform individuals that most people perform a certain behaviour or consider that a majority believe that a certain course of action is acceptable. For instance, in Peru, an SMS alert campaign with a social norm sought to nudge



school managers to use allocated funds to maintain school facilities. The text messages emphasized that most managers were complying with the behaviour, resulting in a reduction of 8 per cent in the compliance gap (Dustan et al., 2019).

- *Disclosure*: Provide new facts and information to people simply and understandably so that they can make a more informed decision – e.g., communicating with parents through text messages that contain feedback on their child’s attendance (Smythe-Leistico and Page, 2018).
- *Reminders*: Give people information cues that will recall a memory or a thought – e.g., text messages reminding parents of the importance of reading with their children to help their academic development (Mayer et al., 2019).

This review purposely highlights examples focused on education. However, nudges have been applied to different areas such as health, employment, the environment, etc., in which their use has not been limited to communication/messaging strategies (Sunstein, 2014).

When behaviours are individual, nudges are often used to target mental shortcuts and cognitive biases by modifying environmental factors, such as using defaults wherever possible or minimizing barriers in access to services (Miller et al., 2010). However, when it comes to socially motivated behaviours, the use of mechanisms that promote behavioural compliance by comparing the practices of individuals with those of others is key (IRS, 2017).

Bicchieri’s theory of social norms (2016) postulates that once the motivation for behaviour has been identified as socially conditioned (depending on what others do and what others believe one should do), the change implies

different mechanisms relative to those that would be at work if the motivation was individual. To achieve change, socio-demographic differences, especially those related to gender, should be considered. Suggested steps by Bicchieri (2016) are shown in Figure 3.

Below is an illustrative example of how this approach could be used to reduce sexual harassment in Peruvian schools (Lévano and Ponce, 2019):

1. First, identify the two types of personal beliefs to be changed: (i) factual beliefs about the consequences of sexual harassment; and (ii) normative beliefs according to which sexual harassment should be evaluated as a negative practice.
2. Then, elicit a collective decision to change. The school must come together to reduce sexual harassment cooperatively. New behaviours will only be possible provided a mass of people (trendsetters) have been convinced of the need for change (Petit and Zalk, 2019). An effective strategy is to sign a collective agreement making it visible to the entire school that the change results from a coordinated effort.
3. Third, introduce informal collective sanctions for non-compliance. In the case mentioned above, bystanders play an active role by reproaching harassers’ practices, which in turn reduces the collective legitimacy of their actions.
4. Fourth, create normative expectations; that is, change beliefs about what other people think should be done. In this case, “all the students believe they should not harass others”.
5. Lastly, to the extent that normative expectations are met, a new expectation will be created about what others do (empirical expectation), e.g., “No student harasses others”.

**Figure 3: Key processes for social norms change**



Adapted from: Bicchieri, 2016

Additionally, the authors stress the importance of designing gender-specific strategies in practices deeply affected by differentiated expectations towards boys and girls (Lévano and Ponce, 2019). A study from J-PAL carried out in Indian schools analysed an intervention in which classroom discussions on gender equality were carried out to change social norms. Positive results were documented and found to persist even two years after implementation (Dhar et al., 2018).

As previously discussed, behavioural sciences offer guidance on tailoring policies to address specific behavioural drivers by designing interventions that provide individuals and groups with the contextual information that they otherwise lack (OECD, 2019a). This strategy provides policymakers and practitioners with a set of tools for designing and implementing effective interventions that can promote behavioural change (OECD, 2017).

Due to its potential, the use of behavioural sciences has been growing in the last few years. For instance, they have been leveraged to fight poverty, promote healthy habits, decrease highway deaths, respond to the COVID-19 pandemic, combat discrimination, including gender-based discrimination, and reduce air pollution, among other current problems (Sunstein, 2020). However, behavioural insights have been adopted mainly with adult populations; thus, it is important to consider their ethical use when dealing with children and adolescents. In this respect, UNICEF is working on the document “Ethical considerations for applying behavioural insights approaches involving children and adolescents”, which addresses the possible risks and recommendations on overcoming the challenges related to the use of behavioural sciences involving minors (UNICEF forthcoming, 2021).

This paper provides important ethical guidelines that will be instrumental for carrying out DMS research to the highest possible standards. Illustrative examples concerning the use of behavioural sciences in education are given below; these examples are classified by topic.

## Students’ absenteeism

To combat absenteeism, the provision of information has become a fundamental strategy. For example, de Walque and Valente (2018) used two traditional

incentives and a behavioural-based one to encourage girls’ attendance in primary schools in Mozambique. The behavioural strategy consisted of providing weekly reports with easy-to-understand graphic content for literate and illiterate parents about their child’s attendance. The treatment increased the attendance levels by 4.5 per cent in comparison with the control group.

In a similar intervention in Brazil, parents of ninth-grade students participated in a randomized field experiment. They received two possible treatments: i) text messages with information about their children’s attendance, lateness and assignment completion (e.g., “According to the information registered by the teacher in the system the past 3 weeks, Eric missed less than 3 classes”), and ii) messages to raise awareness regarding those three topics (e.g., “For good school performance, it is important that Guilherme doesn’t miss school for no reason”). Both treatments increased attendance rates by 2.1 per cent, the equivalent of attending five additional classes in a year (Cunha et al., 2017).

In a more recent study in another Brazilian region, Lichand and Christen (2021) tested the impact of nudges to prevent school dropout in the context of the COVID-19 pandemic. To do so, they sent informative and interactive text messages about the importance of effective learning techniques and other related topics twice a week to secondary school students or their primary caregivers between June and December 2020. The main result showed a 26 per cent reduction in the dropout risk.

## Students’ performance

In the Colombian city of Manizales, a randomized controlled trial was designed to close the gap between parents’ beliefs and their children’s performance in school. The two treatment groups received a card containing the child’s maths and reading performance but varied over the comparative reference group. The first group received their child’s relative position in the class. In contrast, the second group received information that included their children’s performance compared to other students in their city. After one year of the intervention, the results showed a change in parents’ beliefs about the performance of their children and a positive impact of the first (0.10 SD)

and second treatment (0.09 SD) in maths and reading scores (Barrera-Osorio et al., 2020).

A similar study was conducted in Punjab, Pakistan. Parents received report cards with their child's grades, while schools received information about their students' average grades and comparative information about the performance of other schools in their village. As a result, English, maths and Urdu scores improved by an average of 0.11 SDs. This gain persisted for the two years following the intervention (Andrabi et al., 2017).

Another way to improve student performance is generating commitments that allow the purchase of school supplies. For instance, in Uganda, student savings accounts were introduced as commitment devices to provide sufficient resources for school supplies. The first version consisted of an account fully committed to educational expenses (strong commitment). The second version was an account in which savings were available for cash withdrawal but intended for educational expenses (weak commitment). The results showed that the second version was more successful in generating increased savings and improving students' performance (scores on an exam covering language and maths skills by 0.14 SD) as long as it was combined with a parent outreach programme on how to invest in their children's education (Karlan and Linden, 2014).

## Teachers' and principals' absenteeism

Beyond the role of students and their parents, it is crucial to work with teachers and principals. Their attendance is one of the most important factors for the success of educational systems. For instance, recent research in Eastern and Southern Africa regarding teachers' attendance suggests that different elements such as teachers' monitoring and training and head-teachers' management, monitoring capacities, and leadership skills have an effect in reducing teachers' absenteeism (Karamperidou et al., 2020).

A randomized experiment in Peru tested the effect of emails with social norms content, including information about teachers' attendance. Around 100,000 teachers and principals in 27,000 schools were divided

into three groups (two treatments and one control). Within the treatments, the first group received emails with social norms content, while the second group got messages that emphasized the positive effects of teachers' attendance on students' performance. The social norms emails were the most successful in boosting attendance of principals and teachers by 4 per cent, which corresponds to approximately seven fewer missed school days per year (eMBed, 2018).

Also, traditional incentives seem to work successfully when it comes to mitigating teachers' absences. In rural India, a randomized controlled trial (RCT) was carried out in 120 schools, giving teachers a camera with a tamper-proof date and time function used to track their attendance. The rule was that one of the students would photograph the teacher with the other students at the beginning and end of the school day. Teachers' salaries would vary based on attendance. As a result, teachers' absenteeism decreased in all 60 treated schools, with absenteeism at an average of 22 per cent compared to 42 per cent in control schools (Banerjee and Duflo, 2006).

## Improving infrastructure

An intervention designed by MineduLAB (Innovation lab for education policy housed within the government of Peru) sought to nudge school managers to use allocated funds to maintain school facilities through an SMS alert campaign. The managers were assigned to one of six groups; one control and the following five treatments: (i) reminder/warning messages with an alert and the URL of a website where they could obtain key information; (ii) a monitoring treatment with information on the number of transfers not yet withdrawn from the bank or not yet declared on the expense report; (iii) a social norm treatment that used messages emphasizing that most managers were complying; (iv) a 'shaming' treatment based on information regarding the possibility of sharing a list with the names of those who failed to comply with the reporting of expenses; and (v) an audit treatment, highlighting that an audit would be carried out throughout the year. Results suggested that the monitoring treatment was the most effective intervention to help with the compliance of the bureaucrats with the allocated budget spending (Dustan et al., 2019).



# Recommendations

Based on what was found in the literature and reviewed cases, below are some key lessons from behavioural sciences for the DMS research stage 4:

At a general level:



Behaviourally informed interventions are a cost-effective way of addressing certain educational challenges and problems that encompass significant behavioural elements. These interventions capitalize on relatively small and/or cheap nudges that can produce incremental individual-level changes in behaviour, which can drive significant changes at scale when aggregated.



There is no one-size-fits-all approach: the reviewed studies suggest that interventions that use behavioural insights should be specific and contextualized, especially in non-Western, educated, industrialized, rich and democratic (WEIRD) countries where their use is less common.



To change attitudes and behaviours sustainably, interventions need to use messages and tactics/approaches that are as relevant, understandable and appropriate to specific realities and contexts as possible.



Behavioural changes, especially when misbeliefs or negative attitudes affect compliance, could be achieved by working on changing beliefs and attitudes.



Consider demographic specificities when designing individual strategies, but especially in the case of socially motivated behaviours. Adopting a gender lens is essential for the latter, especially when it comes to practices affected by differentiated expectations towards men and women. Also, it is important to consider generational differences as social beliefs may differ across age groups.



The behavioural sciences approach should be considered a complement to and not a substitute for institutional solutions, regular policies and traditional interventions.



Not all behavioural science initiatives maintain their effects over time (medium and long-term); thus, the implemented actions should be regularly monitored and evaluated.



The application of behavioural sciences must follow ethical guidelines, especially when it involves the participation of children and adolescents or when the latter are the target of behaviourally informed interventions.

At a specific level:



Match the tool/devices/technologies (e.g., cards, symbolic awards, SMSs, etc.) used in the initiatives that seek to promote quality learning with the specificities and context of the behavioural challenge.



Text message reminders are a widely used low-cost mechanism that has demonstrated positive results in different contexts, including the education sector. A general finding is that the more contextualized and specific the information, the greater the effect. It should be noted that when applying this type of strategy in LMICs, it is necessary to consider structural factors such as the digital divide and adapt technologies and devices to specific contexts to avoid widening the gap. Existing data and stakeholders' knowledge of the context should be exploited when designing a scalable behavioural intervention. Initiatives that use letters or messages to teachers, principals, students and parents can benefit from existing databases already held by a central authority.



Goal-setting and social rewards can also be particularly useful if there are mechanisms that allow community accountability, thus, promoting better performance from different actors of the educational community.



Providing comparative performance information can be useful if done correctly. Ideally, the phrasing should give a framing that makes better performance look like an achievable challenge. This social norms-based approach can be used with any member of the educational community.



If used with caution, the incorporation of emotions can be helpful (such as embarrassment for not complying with a certain expected behaviour).



For the intervention to be successful, the source of the information/messages to be spread must be credible and have legitimacy in the community.



If a communication strategy is chosen, it is useful to employ more than one channel of communication that transmits the same message in various ways to reinforce it.



To change collective behaviours, a community approach should be considered, and, when possible, group interventions should be implemented so that it is largely clear that multiple relevant people are participating in the change.



Traditional incentives (economic stimuli, sanctions, laws, regulations, formal rules, etc.) work successfully to encourage desired behaviours and complement with nudges and other behavioural sciences mechanisms well. Redesigning the way information is presented (framing) can enhance the effectiveness of traditional incentives.

## 6.2. Implementation Research and Scaling Science

Evidence from a broad spectrum of fields demonstrates that implementation is a complex process that requires a multilevel ecological framework (Altschuld et al., 1999; Shediak-Rizkallah and Bone, 1998; Wandersman, 2003, cited in Durlak and DuPre, 2008). This framework requires considering variables for successful implementation at three levels: the community level (level 3), in terms of organizational capacity (level 2), and core implementation components (level 1) (Durlak and DuPre, 2008; Fixsen et al., 2005).

At the first level, there is some evidence that the more clearly core components of an initiative or programme are known and defined, the more likely it is that the programme will be implemented successfully (Fixsen et al., 2005). Core implementation components can include: (i) staff selection; (ii) training; (iii) ongoing consultation and coaching; (iv) staff and programme evaluation and facilitative administrative support; and (v) systems interventions (Ibid.).

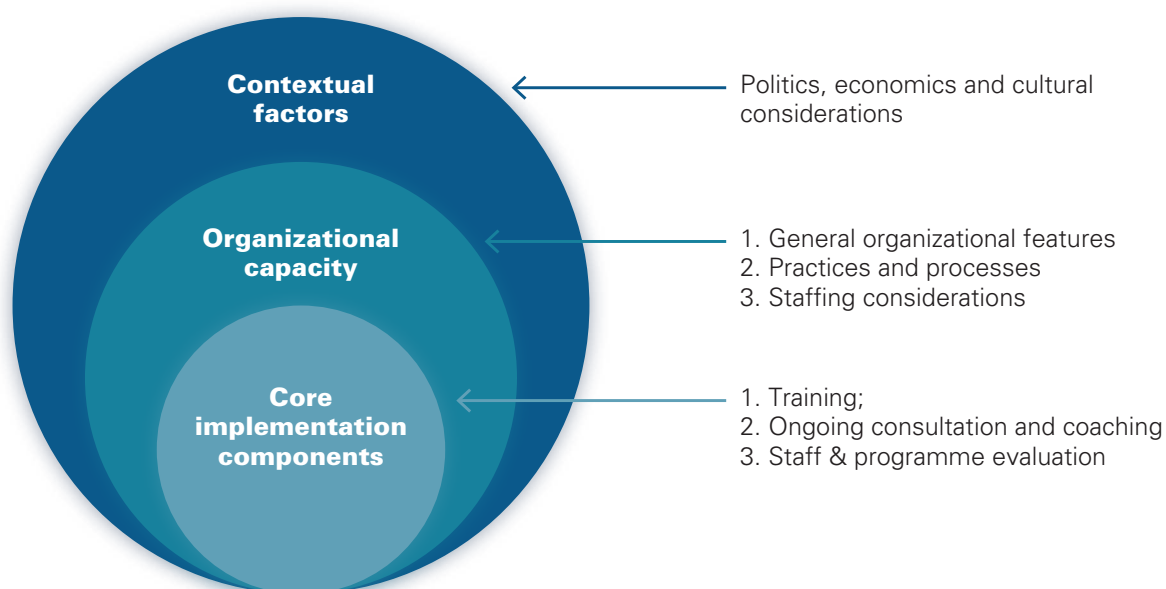
At the second level, there is agreement on the importance of 11 factors associated with the organizational capacity, including leadership, programme champions, and shared decision-making (Durlak and DuPre, 2008).

Situations in which decision-making is shared between providers, researchers, administrators and community members have consistently been proven to lead to better implementation outcomes (e.g., Riley, 2003, cited in Durlak and DuPre, 2008).

Also, for programme implementation to be successful, contextual factors (third level) must be considered. This level includes the physical environment, sociocultural aspects, ethical constructs, geographical aspects, seasonality, and historical conditions, among others. Additionally, changes in government, leadership, funding priorities, and economic cycles should be included (Fixsen et al., 2005). These components are crucial to ensure the sustainability of the implementation and its subsequent escalation.

Similar elements were identified and summarized by J-PAL in a “generalizability framework”, which focuses on the mechanisms – “why people responded the way they did” – that help policymakers in the complex process of implementing and generalizing interventions. According to this framework, “focusing on mechanisms, and then judging whether a mechanism is likely to apply in a new setting, has several practical advantages for policy making” (Bates and Glennerster, 2017). The framework consists of four steps: (i) what is the disaggregated theory behind the programme?; (ii)

**Figure 4: Multilevel ecological framework for scale**



Source: Adapted from Fixsen et al. (2005)

do the local conditions hold for that theory to apply?; (iii) how strong is the evidence for the required general behavioural change?; and (iv) what is the evidence that the implementation process can be carried out well? (Bates and Glennerster, 2017).

Regarding scaling science, the literature is critical regarding the lack of nuance and depth in scaling studies on educational issues, which typically focus on initiatives with quantifiable outputs. For instance, Sutoris (2018) recommends considering the role of

cultural, political and historical factors as they compromise the impact and ethics of the implementation at scale. Including these concepts leads to a thicker version of scaling science that focuses on its application processes and outcomes. This thick description of scalability keeps the context as the primary driver of the research, which leads to a site-specific system of ethics rather than a universal one (Ibid.).

Using this definition of scaling science, UNICEF documented various pathways to scale up initiatives,

## Box 5. Millions learning framework for scaling

### 1. **Design:** Planning for scale at the outset.

Ingredients needed for this are:

- i. **Local education needs:** Interventions should be designed to respond to local demands and ensure the participation of end users.
- ii. **Cost-effective learning:** Cost structures affordable at scale should be incorporated in the design.
- iii. **Flexible adaptation:** Core elements of effective learning approaches should be identified and replicated across contexts while adapting the rest to local circumstances.
- iv. **Elevating teachers:** Community expertise should be leveraged to support and unburden teachers.

### 2. **Delivery:** Requires a combination of political, technical, economic, social and cultural strategies. Ingredients needed for this are:

- i. **Education alliances:** All actors need to work together to achieve a common goal.
- ii. **Learning champions and leaders:** As scaling quality learning is a political and technical exercise, champions within and outside government and the classroom are crucial.
- iii. **Technological advances:** Context-appropriate technologies can accelerate education progress.
- iv. **Windows of opportunity:** Effective education approaches are more likely to take root and spread when aligning with country priorities.
- v. **Better data:** Data on learning and scaling

play a central role by motivating informed action at the policy and practice levels.

### 3. **Finance:** Based on accurate and transparent costing models considering equality, equity and inclusion. Allocation of resources matters as much as absolute amounts. Ingredients needed for this are:

- i. **Flexible education financing:** Financing should be flexible, including building core operational capacity.
- ii. **Long-term education financing:** Stable and predictable support is essential.
- iii. **'Middle phase' financing:** Financing is required to bridge the critical stage between pilot and broad uptake.

### 4. **Enabling environment:** Supportive policy environment and a culture of research and development and seizing critical windows of opportunity.

- i. **Supportive policy environment:** Government policy must safeguard every child's right to quality education while remaining open to diverse ideas and actors to contribute to this common aim.
- ii. **A culture of research and development:** Ensuring that more children learn requires a strong ethos of experimentation, collecting learning data, and using it for continuous improvement.

*Source: Robinson and Winthrop (2016)*



which include: (i) private sector partnerships; (ii) leverage of channels that are widely accessible to target beneficiaries; (iii) training and transferring knowledge and recruiting new expertise to operate at the local level; and (iv) publicity and recognition of the initiative (UNICEF, 2018).

Furthermore, the Center of Universal Education (CUE) at the Brookings Institution carried out the 'Millions Learning' project working with partner institutions worldwide. It focuses on how to scale quality education initiatives for all children and youth based on a report of the findings from 14 in-depth case studies involving scaling education interventions. The final report shows how scaling quality education in the developing world often occurs differently depending on the context in which each intervention is developed (Robinson and Winthrop, 2016). As a result, the report presents a conceptual framework that identifies four key thematic areas that consist of 14 core ingredients of scaling, which will vary regarding the specific context where the scaling up is taking place (see **Box 5**).

As a part of the Millions Learning project, CUE proposed a general design of an adaptive learning process to learn from, support and document interventions focused on improving children's learning as they scale in real time. The guide has two objectives: on the one hand, to support the implementation and scaling up process of educational initiatives and on the other hand to gain deeper insights into how policymakers, civil society and the private sector can work together effectively to bring about large-scale transformations in the quality of children's learning and their development. This real-time iterative learning cycle consists of five steps: (i) define the scaling pathway and the specific goal to pursue; (ii) identify scaling challenges to address and opportunities to leverage; (iii) develop a scaling action plan, drawing from the Millions Learning framework and other scaling resources; (iv) put the plan into action, using rapid feedback mechanisms to learn and adapt in real time; and (v) reconvene for reflection period (Perlman and Curtiss, 2018).

There are four possible options to define the scaling pathway: (i) horizontal, which means expanding the intervention among more people and places; (ii) vertical, which implies the engagement of the different levels of government by the adoption of the practice

as a policy; (iii) organizational, which consists of strengthening the capacity of the institutions that are involved in the initiative to improve the effectiveness, efficiency and sustainability of the activities; and (iv) functional, which is related to the expansion of the type of activities or areas of engagement (Perlman and Curtiss, 2018). These pathways often happen in combination; hence the actors involved in the scaling process should consider them comprehensively.

This model complements the scaling pathways documented by UNICEF (2018) and emphasizes the roles of national and local governments in the scaling process. It also considers the political, legal and institutional contexts as relevant factors to enable change and preserve the achievements. The model also recognizes that it is necessary to discuss scaling drivers, spaces and arenas and examine existing bottlenecks inhibiting scaling and potential opportunities from accelerating progress. The Millions Learning 14 core ingredients are particularly helpful in this step, as other tools as landscape analysis or the MSI Scalability Assessment Tool (SAT) Checklist, among others (Perlman and Curtiss, 2018).

Despite this knowledge, not much is known about how these factors affect the implementation and scale-up of positive deviant practices in education and other fields, as efforts to scale up positive deviant practices have been limited due to the nature of the approach (see **Box 8**). Therefore, one of the challenges to identify levers and incentives for optimal scale will be to find compatibility between the two approaches and reach a common ground that allows for disseminating specific and contextualized ideas on a larger scale.

This section illustrates a handful of examples from education and other fields identified in the literature where positive deviant practices and behaviours have been implemented in a different locality or spread with successful results. The section ends with a few key reflections on success factors that enabled the implementation or diffusion of positive deviant practices, hence offering insights for DMS research.

An important reference regarding scaling processes in the educational field, particularly for LMICs, is the report *Journeys to Scale: Accompanying the Finalists of the Innovations in Education Initiative* (Roland et al., 2016) produced by UNICEF in partnership with the

Center for Education Innovations. In this report, five educational innovations and their scaling processes are analysed in Sudan, Brazil, Ethiopia, Ghana and Peru. The researchers embraced the heterogeneity and particularities of each of the cases. They have also drawn insights that may be useful for other early-stage projects, categorizing them into four themes: (i) definition, (ii) context, (iii) partnership and people, and (iv) strategic planning. Box 6 summarizes those insights.

Another example that has insights regarding scaling took place in Vietnam. After a two-year pilot project, malnutrition had decreased by an amazing 85 per cent in the communities where the positive deviance approach was implemented. Over the next few years, the positive deviant practices became a nationwide programme in Vietnam, helping over 2.2 million people, including over 500,000 children, improve their nutritional status (Sternin and Choo, 2000). When the Vietnam nutrition practices were scaled up to an additional 10 villages, rather than imposing the same adoption of the successful behaviours, a new positive deviant inquiry, setting a structure to learn from

successful examples, was carried out in each village. This is aligned with the flexible adaptation ingredient mentioned in the Millions Learning Framework, which ensures a better design for scaling.

In other positive deviance studies, the importance of not imposing a list of practices has been pointed out; rather, the positive deviance approach should be useful for identifying the behavioural levers. Accordingly, positive deviant practices should not be transferred in an orthodox way. Instead, the identified paths for success should be adapted to the terms of the communities. In other words, it is about setting a structure to accompany those that are struggling to adopt positive deviant practices by establishing a framework that allows them to learn from those who present success stories through observation and practice. For instance, in the Vietnam malnutrition project, mothers had the opportunity to hear about the positive deviant behaviours and see and put them into practice (Sternin and Choo, 2000). According to Brookings' scaling framework, these champions and leaders are crucial for the delivery of scaling.

### Box 6. Key insights from educational innovations and their scaling processes

1. **Definition:** Scaling is more than just increasing the number of beneficiaries. Different paths can be followed in a scaling process. Therefore, recognizing the variety of forms that the scaling could take implies "that results frameworks reflect more nuanced indicators – ones that go beyond the number of beneficiaries reached and encourage other forms of organizational growth".
2. **Context:** Careful consideration of the surrounding context is necessary, particularly for technology-based interventions, to achieve their intended impact. Also, the choice of a pilot site may have important implications for the success of an intervention. Finally, intensive local collaboration is crucial to ensure the developing and scaling up of the innovation.
3. **Partnership and people:** Managing complex, multi-stakeholder partnerships requires sustained efforts and differentiated approaches. Additionally, a community in which key staff members feel ownership and a sense of empowerment can improve results and create a more sustainable model.
4. **Strategic planning:** Testing and experimentation along the entire initiative process can enhance the likelihood that the innovation will scale effectively. In fact, designing with scale in mind from day one may bolster the chances that an innovation meets its scaling target.

*Source: Adapted from Roland et al. (2016)*

Another example is the research in Namibia that did not originally intend to scale up the practices of positive deviant schools. The report noted that positive deviance research should not draw up lists of the 'success elements' that positive deviant schools embody and then impose them on weaker schools. On the contrary, this learning must take place on their terms. The elements would have to be grown in each school over time and be adjusted to benefit each school's unique situation (UNICEF, 2016). According to Pascale et al. (2010), the process of self-discovery is as important as the actual behaviours that were identified.

Second, the scaling up of projects has been facilitated by the participatory nature of all steps of the positive deviant process and the inclusion of all community members, particularly those who are often excluded from decision-making processes. In Vietnam, local facilitators listened to as many people in their community as possible, irrespective of the added value to the listener. In Misiones, Argentina, parents of children in the rural community where positive deviant schools were being identified – usually poor subsistence farmers – were invited to participate in the positive deviance workshop. They were not used to being asked for their opinion but had many valuable insights to contribute. The inclusion of voices often dismissed – women, children, people with disabilities, and other marginalized groups – is important in changing social norms (Petit and Zalk, 2019).

"In the positive deviance process, the real objective isn't just 'knowledge' [...] The overriding objective is engagement, creating a buzz, mobilizing people to take action" (Pascale et al., 2010, p. 162). This was a key practice for all community members to feel part of the project in question. In Indonesia, much like the nutrition example in Vietnam, part of the success of the positive deviance initiative was attributable to local community ownership of the strategies that would be used to prevent village girls from leaving the community and engaging in sex work (Dura and Singhal, 2009). As Pascale et al. highlight, "when the group becomes the guru, members 'credentialize' themselves as change agents" (Ibid., p. 50). Similarly, Singhal (2013) points out that positive deviance requires that those who deploy it understand the differences between the method and the traditional model of organizational and social change. In the traditional Western/

northern model, which is strongly focused on the role of experts (and assumes the community knows little), outside 'experts' and knowledge change agents push ideas and practices on a group (Buscell et al., 2010; Said Business School, 2010). The positive deviance approach instead suggests that while behavioural change is 'intrinsic to the method', the social fabric of each community has its own set of unique practices that privilege certain behaviours (LeMahieu et al., 2017).

Third, the focus on practice rather than knowledge to bring about lasting behaviour change is an important component in the scaling up of positive deviant practices. Providing people with the right information will rarely translate into the 'logical choice', as people are also emotional and influenced by their context (Petit and Zalk, 2019). A more realistic framework for behavioural change should consider three broad categories of drivers of change – individual, collective and environmental.

According to Pascale et al., "it's easier to act your way into a new way of thinking than to think your way into a new way of acting" (2010). This is an important factor in the successful implementation of education programmes. For example, in a meta-analysis of research on training and coaching, Joyce and Showers (2002, in Fixsen et al., 2005) gathered several years of systematic research on training teachers in public schools. Training that only consisted of theory and discussion produced a modest gain in knowledge and the ability of teachers to demonstrate the new skills in the protected training environment. More substantial gains were made when demonstration, practice and feedback were added to theory and discussion in a training workshop, but still with little use of the new skills in the classroom. When on-the-job coaching was added, large gains were seen in knowledge, ability to demonstrate the skills, and use of the new skills in the classroom with students. Authors note that training and coaching can only be done with the full support and participation of school administrators and works best with teachers who are willing and able to be fully involved.

In Misiones, Argentina, immediately after identifying positive deviant practices, an action plan was developed collaboratively by parents, teachers and adminis-

trators. The six schools developed an initiative building upon the foundation of identified positive deviant practices and actionable solutions. Some positive deviant behaviours were implemented immediately. In the following week, teachers and parents identified absentee children and visited their homes to discuss their absence with their parents. Furthermore, students and their parents made ‘commitment posters’ at home on which parents detailed their commitment to improving the quality of education of their children. School dropout rates in Misiones dropped significantly.

In Vietnam, after the successes of the initial nutrition programme, a living university was built around the 14 programme villages that had been involved at the outset of the programme. These villages provided a social laboratory for exposure to the nutrition process at different phases of implementation. Participants could learn the conceptual framework but, more importantly, participate in the fieldwork in the villages and spend a couple of days experiencing the essential components of the programme (Pascale et al., 2010). After graduation, Living University participants returned to

## Box 7. Guiding principles of scaling

Scaling impact is a coordinated effort to achieve a collection of impacts at an optimal scale that occurs if it is both morally justified and warranted by the dynamic evaluation of evidence (McLean and Gargani, 2019). There are four guiding principles to scaling programmes (principles 1 and 2 are especially relevant for scaling positive deviance approaches):

1. **Justification:** Rests on demonstrating that impacts can be scaled. This can be considered a technical justification, which requires a sufficient body of evidence – this might include a minimum average effect size or a minimum number of studies demonstrating effectiveness in relevant settings. Scaling is justified when the empirical evidence meets or exceeds the criteria. In positive deviance, however, technical justifications might be rather complicated as it is not clear whether an evidence-based approach is enough to warrant scaling up or diffusion. For example, it is unclear how to proceed in situations where people do not agree about what works and what does not (Said Business School, 2010). Furthermore, a technical justification is still insufficient – a moral justification is also a requirement. A legitimate justification for scaling must reflect a shared vision for action between the parties involved. A ‘more is better’ mindset is contrary to that spirit.
2. **Optimal scale:** This principle is intended to challenge implementers to understand that solutions to social and environmental problems have an optimal scale, and it is rarely the maximum. It is important to consider the collection of impacts that scaling generates. As scaling generates impacts, it will present a mix of benefits and costs to intended and unintended participants in the scaling process. An Aristotelean mid-point is more likely to yield better results.
3. **Coordination:** It is important that implementers scaling an initiative develop the criteria that justifies the scaling – and this makes scaling depend on meeting that criteria.
4. **Dynamic evaluation:** As a starting point, dynamic evaluations should describe, in advance, the scaling effects believed to govern impacts as they scale. Dynamic evaluation asks, “what is the impact of an innovation at a given level of scale” but also, “what is the impact of the scaling?” There are three ways to hold a dynamic evaluation stance: evaluate scaling, learn continuously, and be flexible.

*Source: Adapted from McLean and Gargani (2019)*





their provinces and districts to implement the positive deviance nutrition programme in two villages. Over the next seven years, an estimated 50,000 children were supported through the efforts of more than 400 Living University graduate teams.

An additional reinforcer of change and expansion of positive deviance has been the ability of beneficiaries to see results from the acquired practices; thus, it is particularly important to show quick wins to demonstrate that change is possible. In Vietnam, for example, when children were measured after the adoption of positive deviant nutrition practices, members of the community saw a tangible change in the children's weights, convincing them that the positive deviant practices identified were effective. As Pascale et al. (2010) point out, the "ability to measure is a powerful reinforcer of behavioral change" (p. 45). Two years after the positive deviance project started in Indonesia, no new girls had left Gadungsari to enter the sex trade since the beginning of the positive deviance anti-trafficking programme: a very visible change.

Identifying 'game changers' within the community is also an important factor in boosting the positive deviance process. These individuals may be considered the champions of the positive deviant practices

and can play an instrumental role in pushing a practice or programme forward. Accordingly, Brookings' scaling framework addresses learning champions and leaders that have already been within and/or outside the educational ecosystem as important ingredients in the delivery process. This is one of the key lessons related to the social norms approach, which suggests that working with trendsetters is especially useful to elicit norms change of behaviours with collective motivations, as described in section 6.1. (Behavioural Sciences to Change and Scale Positive Deviant Behaviours and Practices). For example, in Vietnam, what allowed the scale-up of positive deviant practices related to nutrition was the interest of the beneficiaries in communicating these practices to other villages. It was a decision driven by the community and pushed forward by the community members themselves rather than experts driving those decisions.

Lastly, documenting successful stories and how to deal with the main challenges can be a useful tool to convince other communities with similar problems of the benefits of using the positive deviance approach to start their inquiry to identify practices for solving an intractable problem. This is even more important in developing countries, where education-related data are relatively scarce. The Government and donor

agencies should ensure that educational stakeholders use data on quality learning. Consequently, robust and systematic methods to collect learning data need to be applied to ensure evidence-based continuous improvement. In addition, a culture of research and development (R&D) should be promoted in schools as a key driver of innovation and improvement (Robinson and Winthrop, 2016).

Moreover, according to Bradley et al. (2009), the positive deviance approach to disseminating best practices uses some of the key features thought to accelerate spread, or diffusion, including simplicity

in understanding and implementing, and generating observable improvements, among others. Interestingly in the example of positive deviance in health, these authors used statistical methods based on qualitative data collection with 122 hospital staff members to understand their perspectives and experiences in door-to-balloon time<sup>6</sup> at their hospitals. The authors used these qualitative data to generate a list of hospital strategies and explored which of these were statistically associated with better door-to-balloon time. These strategies were then communicated through a public campaign supported by professional associations and agencies committed to the goal of 75 per cent of patients treated with PCI having door-to-balloon times of 90 minutes or less. Toolkits, webinars and published newsletters of success stories were also made available. The results were marked – whereas only half of the patients had previously met guidelines of door-to-balloon times, by 2008 that figure had increased to 75 per cent (Bradley et al., 2009). As this example shows, communicating change can be accomplished through different platforms depending on the target audience. When considering a strategy for publicizing change, it is important to engage key influencers who support these efforts. On a larger scale, it would be important to rely on media with high penetration and the most influential public figures (Petit and Zalk, 2019). The success of positive deviance has been communicated by various means (see **Box 8**).

As mentioned in section 3 of this document, ‘Definitions and conceptual clarifications’, it is important to document good practices and challenges and failures that occur during implementation/scaling-up processes, generating evidence that could be used to improve the effectiveness and efficiency of these processes. Thus, the DMS research will systematically document achievements, challenges and areas for improvement during the scaling efforts.<sup>7</sup>

## Box 8. Documenting the successes of positive deviance

There are many ways to document the successes of programmes and practices. Some of these include:

- Local media: radio, television, newspapers, etc.
- Creative visual content: posters, brochures, comic books
- Internet
- Documentaries
- Social media (Facebook, Instagram, Twitter)
- Academic articles, books

The successes of positive deviance have been widely documented in a diversity of outlets. Some of these include:

- **Books:** Pascale et al., *The Power of Positive Deviance: How Unlikely Innovators Solve the World’s Toughest Problems*, Boston: Harvard Business Press, 2010.
- **Internet:** Positive Deviance Collaborative (2020). <https://positivedeviance.org/>
- **Academic articles:** See reference list in the present document
- **Creative visual content:** Positive Deviance Wisdom Series. (2009). <https://www.utep.edu/liberalarts/sji/products/positive-deviance-wisdom-series.html>
- Podcast: The Change Pod

6. Time interval from the patient’s arrival in hospital until PCI (percutaneous coronary intervention).

7. This will be done as collaborators of the Research on Scaling the Impact of Innovations in Education (ROSIE) programme, which is part of the Global Partnership for Education (GPE)/International Development Research Centre (IDRC) Knowledge and Innovation Exchange (KIX) and is led by the Center for Universal Education (CUE) at the Brookings Institution.

## Recommendations

Some of the factors that have contributed to the successful expansion of positive deviance initiatives and that can be applied in the scale-up of positive deviance behaviours and practices [Stage 4] are summarized below:



Research needs to be contextualized, adapted and well aligned with participating countries' education strategies and sector plans (ESPs) and emerging needs to ensure relevance and take-up.



Focusing on practice rather than knowledge has effectively brought about lasting behavioural change and credibility to the positive deviance approach to tackle a given intractable problem.



Buy-in from all relevant in-country stakeholders and/or community members is essential from the outset of the research (i.e., co-creation and co-implementation).



Beneficiaries observing tangible results of the positive deviance approach will make it easy to convince others to initiate their positive deviance inquiry to tackle a given issue.



Rather than scale-up, new positive deviance studies have been conducted in specific localities to identify the positive deviant behaviours associated with positive outcomes. This is a useful approach to consider in operational/ implementation research, although it is necessary to define where the limits of each locality lie. Thus, contextual factors such as culture, gender, patterns of social organization, local politics and economy, among others, must be considered to define the optimal scale.



Documenting successful stories for different stakeholders through different means (including posters, flyers, publications, creative visual content, social media, podcasts, etc.) can be useful to convince other communities of the benefits of using the positive deviance approach. Communication channels should be adapted depending on the context (e.g., electricity, connectivity, etc.).



Education systems (including at the school level) should embrace new approaches and build a strong culture of research and development involving all relevant stakeholders.



Identify and cultivate both technical and high-level champions within and outside government and schools.



Strengthen continuous data collection processes. Measure and learn ‘what works’, ‘what does not work’, ‘why’, ‘how to’ deliver those innovations, and ‘how much’ they cost, through better metrics and documentation of scaling processes.



Share new insights through a network of idea hubs. These idea hubs should include stakeholders of different sectors, regions, nations and subnational levels that could share effective approaches to improve quality learning and optimally scale them.



Activate expertise from diverse actors outside schools. Other community initiatives with people with different types of skills and knowledge can strategically assist the educational ecosystem.

## Box 9. Limitations of the positive deviance approach

One of the criticisms of the positive deviance approach is the concern that the ideas of positive deviance lack conceptual clarity, with existing papers using different definitions and the limited theorization of positive deviance being possible (Herington and Van De Fliert, 2018, cited in Albanna and Heeks, 2019). Other authors also raise the issue that there are difficulties associated with identifying positive deviant outliers and their positive deviant behaviours. More practically, positive deviance inquiry typically involves primary data collection through community participation, focus group discussions and interviews; consequently, the cost of positive deviance interventions tends to be high (Albanna and Heeks, 2019).

Secondly, most studies on positive deviance so far have focused overwhelmingly on a certain area and have been limited in their geographical distribution. Zaidi et al. (2012), for example, found that the vast majority – 89 per cent – of the studies they reviewed were studies in public health, with 41 per cent focused specifically on malnutrition. There were only four non-health studies: two on agriculture (Birhanu et al., 2017; Tekle, 2015), one on child protection (Lackovich-Van Gorp, 2017), and one on education. Most studies have also concentrated on a few countries of Asia (Albanna and Heeks, 2019), where positive deviance in nutrition is rooted.

The third challenge of positive deviance is in scaling practices within a community. Positive deviance relies heavily on community engagement to promote the adoption and mobilization of the identified practices and achieve behavioural change through self-efficacy. An issue with positive deviance is the inability to generalize practices and behaviours inferred from one community to another. In most of the reviewed studies, positive deviance interventions targeted small-scale communities. The inferred practices were particular to the circumstances of this community, making it difficult to replicate in other communities (Said Business School, 2010).







## 7. Conclusion

The positive deviance approach does not have a long history, but it has been used in various research worldwide and in different disciplines. Its merits for catalysing behavioural change should not be underestimated as the approach holds tremendous potential to transform communities and people positively.

Regarding the positive deviance methodologies used to identify positive deviant schools during stages 1 and 2 of the DMS research, this review found that research-led studies have relied on statistical methods and qualitative appraisals to confirm the selection of outliers. Other studies with a community-led approach have involved community members in the entire process, from defining what positive deviance is in a given context to identifying outliers. This part of the methodological review has two main lessons. First, the importance of performing mixed-methods analyses including qualitative fieldwork and quantitative approaches at the early stages of the research. Second, the centrality of involving key stakeholders such as education authorities and community members throughout the research journey through participatory approaches.

Identifying positive deviant practices and behaviours to inform stage 3 of the research focused primarily on two topics. First, studies with a qualitative approach were reviewed to understand how outliers had been identified in education and other sectors. It was found that IDIs, FGDs and classroom observations have been used to identify behaviours associated with outstanding performance. Particularly in the field of education, these interviews have focused largely on principals, teachers and students. Still, they have also included (to a lesser extent) other school authorities, parents and community members. Second, the use of behavioural sciences for the identification of practices and their drivers was explored. It was found that it is essential to perform a comprehensive analysis that allows differentiating individual and collective factors that may be affecting behaviours and that this can be effectively done using mixed methods.

Finally, to identify scaling levers and incentives for DMS stage 4, various studies and frameworks were reviewed focusing on promoting behavioural change, implementing good practices, and scaling them effectively and efficiently.

The literature on behavioural sciences highlights three important conclusions: (i) the use of these types of tools is cost-effective; (ii) it is not a one-size-fits-all approach and, therefore, strategies must be contextualized, especially in non-Western, educated, industrialized, rich and democratic (WEIRD) societies where their use is less frequent; and (iii) behavioural sciences are complementary and not a substitute for traditional policies and programmes. Similarly, insights from scaling science and implementation research highlight the importance of context and the inclusion of cultural elements, local economy aspects, and stakeholders' emerging needs, among others. Also, studies stress the importance of documenting processes and strengthening measurement mechanisms.

It may be helpful to think of scaling up as 'spreading ideas', relying on all actors' involvement, including local and regional governments, showing tangible results, and working with the communities rather than only focusing on knowledge to ultimately kickstart behavioural change.

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# 9. Annex

## In-text references

Author(s), year	Instrument (short description)	Relevant research stage (1 to 4)	Link	Notes
Castillo-Castro, 2018	Quantitative: value-added models	Stage 1: Identification of positive deviant outliers	<a href="#">Link</a>	
Singhal, 2013	Qualitative: participatory approaches	Stage 1: Identification of positive deviant outliers	<a href="#">Link</a>	Positive Deviance for Student Retention in Rural Argentina
Peiffer, 2012	Quantitative: statistical analysis	Stage 1: Identification of positive deviant outliers	<a href="#">Link</a>	
Peiffer et al., 2019	Mixed methods: statistical analysis + interviews	Stage 1: Identification of positive deviant outliers	<a href="#">Link</a>	
Castillo-Castro, 2018	Qualitative: interview guide for teachers (AIMS instrument)	Stage 3: Identification of positive deviant behaviours	<a href="#">Link</a>	Appendix 8
Castillo-Castro, 2018	Qualitative: interview guide for students and principals	Stage 3: Identification of positive deviant behaviours	<a href="#">Link</a>	Appendix 9
UNICEF, 2016	Qualitative: Positive deviant inquiry, FGD and interview protocols for parents, teachers, students and principals	Stage 3: Identification of positive deviant behaviours	<a href="#">Link</a>	Annex C
UNICEF, 2016	Qualitative: classroom observations	Stage 3: identification of positive deviant behaviours	<a href="#">Link</a>	Annex D
Harper, 2012	Qualitative: interview questions	Stage 3: Identification of positive deviant behaviours	<a href="#">Link</a>	Pg. 6
PLATO, 2020	Qualitative: classroom observation	Stage 3: identification of positive deviant behaviours	<a href="#">Link</a>	This tool is subject-specific – for English/ Language Arts (ELA)
University of Virginia, 2020	Qualitative: classroom observation	Stage 3: Identification of positive deviant behaviours	<a href="#">Link</a>	
Bell et al., 2018	Qualitative: classroom observation	Stage 3: Identification of positive deviant behaviours	<a href="#">Link</a>	Review of classroom observation tools can be used to compare dimensions that are important in identifying effective teaching practices across different instruments

Author(s), year	Instrument (short description)	Relevant research stage (1 to 4)	Link	Notes
Altet et al., 2015	Qualitative: classroom observation	Stage 3: Identification of positive deviant behaviours	<a href="#">Link</a>	Annex 1
Karamperidou et al., 2020	Mixed methods: qualitative and quantitative research tools (interviews, surveys, focus group discussions, classroom observation)	Stage 3: Identification of positive deviant behaviours	<a href="#">Link</a>	

### In-text references

Author(s), year	Instrument (short description)	Relevant research stage (1 to 4)	Link	Notes
UNESCO IIEP, nd.	Qualitative: classroom observations	Stage 3: Identification of positive deviant behaviours	<a href="#">Link</a>	
World Bank, 2020	Qualitative: classroom observations (TEACH instrument)	Stage 3: identification of positive deviant behaviours	<a href="#">Link</a>	TEACH framework has two main components: Time on Task and Quality of Teacher Practices
Amatari, 2015	Qualitative: classroom observation through interaction analysis (student–teacher interaction)	Stage 3: identification of positive deviant behaviours	<a href="#">Link</a>	
Thapa et al., 2013	Qualitative:	Stage 3: identification of positive deviant behaviours (school climate)	<a href="#">Link</a>	
ISO, 2018	Qualitative	Stage 3: Identification of positive deviant behaviours	<a href="#">Link</a>	The standards set out by ISO for the management of educational institutions can be used in qualitative instruments (school observations or interview protocols) to determine if selected schools fulfil the standards laid out by ISO, including a focus on learners and other beneficiaries; visionary leadership; engagement of people, etc.
GSHS	Quantitative: survey questions for students on bullying victimization	Stage 1: Identification of positive deviant schools (safety of the school)	<a href="#">Link</a>	





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