



Advancing gender equality and closing the gender digital gap: Three principles to support behavioural change policy and intervention

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Executive Summary

Worldwide, interventions and policies to improve gender equality or close gender gaps often struggle to reach their targets. For example, women lag considerably behind in use of even simple digital technologies such as mobile phones or the internet. In 2020, the gap in mobile internet use in low- and middle-income countries was at 15%, while in South Asian and Sub-Saharan African countries, it remained as high as 36% and 37% respectively ([GSMA, 2021](#)). Use of the internet for more complex activities shows an even wider gap. In Cairo, in 2018, only 21% of female internet users gained economically, and only 7% were able to voice their opinions online (with similar statistics for India, Indonesia, Kenya, Uganda and Colombia, [Sambuli et al., 2018](#)). This is despite the fact that empowering women through digital technologies is central to global gender equality strategies (e.g. [Sustainable Development Goals, United Nations, 2015](#)), and is believed to facilitate economic growth and industry-level transformation ([International Monetary Fund, 2020](#)).

Progress is slow because behaviours are gendered: there are stark dissociations between what women and men do – or are expected to do. These dissociations are deeply entrenched by social norms, to the extent that interventions to change them face resistance or can even backfire. Increasingly, governments are using behavioural change interventions in a bid to improve public policy outcomes, while development or gender organisations are using behavioural change programmes to shift gender norms. However, very little is known about how gendered social norms impact the digital divide, or how to use behavioural interventions to shift these norms. Drawing on several research papers that look at the gender digital gap, this brief examines why behavioural change is difficult, and how it could be implemented more effectively.

This brief is addressed to policymakers, programme co-ordinators in development organisations, and strategy planners in gender equality interventions who are interested in ways to accelerate progress on gender equality, and close the gender digital gap. The brief offers a set of principles on which to base interventions, programmes and strategies to change gendered behaviours. The principles in this brief were developed as part of a programme of research into ways to close the gender digital gap.

Introduction

The challenge with behavioural change

Changing behaviours, especially those entrenched by social norms, is a key challenge for policymakers, programme co-ordinators and researchers worldwide. A World Bank report ([Eriksson, 2015](#)) reviewed available evidence on behavioural change and social norm change and found that there were no straightforward strategies known to be effective for behavioural change interventions. Intervention strategies were categorised as working on a conscious level (e.g. listening to figures of authority or role models) or unconscious level (e.g. priming through exposure to counter-stereotypical examples without explicitly drawing attention to these), but it was very difficult to predict when one of these strategies would work. This uncertainty is exacerbated by findings that even well-prepared interventions can backfire, such as one recent programme to reduce intimate-partner violence, which tragically resulted in increased rates of violence in communities in Rwanda ([Cullen et al., 2020](#)).

A way forward

In the face of such challenges, our research has focused on using the latest knowledge about how the human mind works and where behaviours originate, to develop new and refined principles for behavioural change, based on the latest psychological science, to serve as broad guidelines for designing interventions. These principles have been investigated in the context of increasing women's take-up of digital technologies in developing countries, but they can also be applied more generally.

Checklist for action. Three principles for behavioural change to base interventions on:

1. Ride the wave of change when it comes organically, **as a first step**.
2. Promote role models **smartly**.
3. Tackle social norms **at the right level**.

Underlying psychological theories: why an update is required

Psychological theories underlying past interventions

Principles for behavioural change have long been based on psychological theories. [Eriksson's \(2015\)](#) review divided strategies according to two key types of psychological factors that influence behaviour: unconscious and conscious. This is a classic dissociation in cognitive psychology that heavily influences social sciences. One set of unconscious factors are implicit biases: biases in thinking that have been acquired over a person's whole lifetime which the person is not fully aware of ([Devine, 1989](#)). Examples include automatically associating women with care roles, or men with driving cars or using technology. Importantly, both conscious exposure to counter-stereotypical information, (such as reading biographies of women in science), as well as implicit exposure to environments with counter-stereotypical information, (for instance schools where women are science teachers), can both lead to decreases in implicit biases and changes in behaviours, such as more participation of girls in science classes ([Dasgupta & Asgari, 2004](#)).

A contemporary psychological view

Cognitive psychology has moved forward from the mere dissociation of conscious vs. unconscious biases in cognition. Currently, the mind is viewed in a more refined way: as an information-processing machine that generates behaviours based on: (i) prior beliefs or prior knowledge; (ii) new evidence; (iii) the strength and reliability of the new evidence; and (iv) considering how rapidly the environment is changing ([Evans & Feeny, 2004](#); [Boldt et al., 2017](#); [Zylberberg et al., 2016](#)).

This new, refined way of seeing the mind can help explain why interventions might backfire – for instance, because: bias training does not come against a backdrop of a changing environment; or strong counter-stereotypical information is out of line with a subject's lived experience; or role models propose a model of behaviour that is too radically different from their environment to be perceived as reliable.

How to design interventions to change behaviours more effectively

Three principles for behavioural change:

1. Ride the wave of change when it comes organically, *as a first step*.

Interventions are better placed to boost or leverage change in an aspect of life where change is already underway, and support organic growth rather than try to persuade change in other aspects of life that are resistant to it.

Interventions can boost the effects of a wave of change and thus help it spread to a wider community to create a critical mass while, in contrast, interventions may remain ineffective in communities where change is not already underway. This should not come across as pessimistic. Change can only happen organically, drawing on internal motivation, whereas external persuasion is likely to face backlash (e.g. [Barboni et al., 2018](#); [Cullen et al., 2020](#)). A policymaker's role is thus rather to scaffold the internal change for which there is already momentum. Social networks can then spread the change more widely and to new communities.

Our research during the COVID-19 pandemic, for instance, has shown that critical mass effects that accelerate women's take-up of digital technologies are two-tiered (David, forthcoming, a). Pre-existing internal motivation is more important than external environmental pressure, and externally determined change in one area does not easily transfer to other aspects of life. For example, while change was already underway, growth in use of digital technologies during the COVID-19 pandemic led to substantial changes in women's take-up of digital technologies for work or for communicating with friends and family. However, this has not translated into equal benefits to women's use of digital technologies for political or public participation. This is because there was already significant resistance to change, and direct exposure to political or public participation during the pandemic was not strong.

In conclusion, change takes more time in some behaviours and aspects of life than in others. To improve efficiency, a first step for direct interventions – such as giving women access to technology, to online platforms or to other opportunities and benefits – is to focus on boosting progress in behaviours where change has already gained momentum organically.

There are other, indirect ways to inspire shifts in behaviours that are more resistant to interventions. The most prominent one is to promote role models, as discussed below.

2. Promote role models *smartly*.

Role models are often promoted as the panacea for behavioural change. However, new findings suggest that role models are most effective at an implicit or unconscious level – to inspire behaviour change in others, rather than to explicitly drive that change through leadership. A multitude of role models promoted in the media and supported in senior roles is therefore needed to *inspire* change *implicitly* through changing prevailing attitudes.

Exposure to role models is crucial, because it can boost one's capacity to follow one's goals and help motivate action ([Bernard et al., 2014](#)). However, explicit pairing with one particular role model runs the risk of being ineffective if the beneficiary does not fully identify with that one role model. For instance, pairing school-aged girls with a female scientist role model may remain ineffective if other characteristics are not matched – from ethnicity to femininity to film preferences ([Cheryan et al., 2011](#); [2020](#)). Exposure to a multitude of role models is preferable, to make sure the beneficiary can identify with these role models in different ways. This is in line with the psychological theory outlined earlier: one single counter-stereotypical model, no matter how salient, will not be as effective as a multitude of models who together build on a person's prior beliefs and identities.

Expecting direct change as a result of role models in leadership positions is often similarly ineffective. There has been controversy over promoting female leaders due to the so-called 'queen bee' phenomenon, where female leaders have been found to be unsupportive of subordinate women, at least through direct action ([Derks et al., 2016](#)). However, it was later shown that this happens because of fear of backlash or fear of losing legitimacy – for instance, groups tend to see a female leader as illegitimate if she supports other women or minority groups directly ([Arvate et al., 2018](#); [Hekman et al., 2017](#)).

Building on this, our own research shows that female leaders such as local female politicians can *inspire* change in attitudes at an implicit level, even when this comes without direct explicit encouragement of women. Unlike previous, more pessimistic, findings (e.g. Derks et al., 2016), rather than looking at the actions of the female leaders themselves, our research looks at how their mere presence affects the behaviour of other women. For instance, local female politicians can boost public participation online even when women do not report feeling directly encouraged by female politicians (David, forthcoming, b). Such findings build on prior studies showing that female local politicians inspire change in a wide range of attitudes and gender norms among local women and men, even if those female politicians do not make any direct changes to opportunities for women (e.g. [Beaman et al., 2009](#); [2012](#)).

The indirect, implicit benefit of female role models is therefore crucial. As our research shows, role models can inspire change, even in areas of life that are most resistant, such as women's online public participation, areas where direct interventions may not work.

3. Tackle social norms *at the right level*.

Tackling social norms is the most difficult step. It is often described as necessitating a shift in cultural consciousness. However, interventions need to deliver that change in cultural consciousness by targeting *at the right level*. Aiming for a shift in cultural consciousness that is radically progressive from the current cultural norms is likely to cause a backlash and to backfire, often with dramatic consequences. This was the case in the Rwandan intervention programme that taught progressive gender equality ideas: it resulted in increased rates of intimate-partner violence, likely caused by backlash from men whose traditional male identities were challenged ([Cullen et al., 2020](#)). In line with the psychological theory outlined earlier, strong counter-norm evidence is unlikely to work if it is not in sync with prior beliefs.

It is understandable that programmes are ambitious and wish to change detrimental social norms rapidly. However, this is almost never possible. For example, in education, the idea of teaching *at the right level* is now prevalent: tailoring teaching to each child's existing level of knowledge. Not doing so runs the risk of hindering learning, losing pupils' attention and motivation, or causing them to stop attending school ([Banerjee et al., 2016](#); [Hwa et al., 2020](#)).

In the case of the gender digital gap, research has shown that programmes that do not take into account prior cultural norms are largely ineffective. For example, in communities where the norm is for women to not own mobile phones, programmes that give women phones are ineffective, since male relatives will simply take these devices away ([Barboni et al., 2018](#)). An action that challenges a strong norm can backfire: for instance, a family that gave their daughters mobile phones faced being outcasts in a community in India ([Barboni et al., 2018](#)). Our own research (David, forthcoming, c) has shown that the benefits that women can gain from digital interventions vary dramatically, based on their current level of empowerment. Therefore, stratifying interventions by prior empowerment level and targeting interventions *at the right level* is the way forward to tackle social norms more effectively.

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