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Ethical Considerations When Applying Behavioural Science in Projects Focused on Children

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ETHICAL CONSIDERATIONS WHEN APPLYING BEHAVIOURAL SCIENCE IN PROJECTS FOCUSED ON CHILDREN

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EXECUTIVE SUMMARY

Applied behavioural science, often referred to as Behavioural Insights (BI), takes findings about human behaviour from the inter-related fields of behavioural economics, cognitive and social psychology, and social anthropology, and applies them to real-world problems. At its heart, an applied behavioural science approach entails drawing upon the evidence about how humans *actually* behave to inform policymaking and programme design. The ultimate goal is to change behaviour in ways that improve the lives of people and communities.

Behavioural science is increasingly being recognized by governments and organizations as an effective tool to improve the design and implementation of programmes and policies. Applied behavioural science has already demonstrated measurable benefits across a range of policy areas including health, education and social welfare, and, in light of this success, is now being used to design programmes and policies that impact children.

The intended audience for this discussion paper is what we refer to as 'practitioners' – including UNICEF staff, the staff of international organizations and NGOs and governmental counterparts, who want to apply behavioural science to positively impact the lives of children. Projects and associated applied behavioural science interventions may directly focus on children's behaviour and decisions, or they may focus on parents, educators, healthcare providers and other individuals whose behaviour, in turn, impacts children.[1]

To bring together the scholarship on ethical research involving children and the design and development of applied behavioural science projects and programmes of work, the Behavioural Insights Team (BIT) and the Young and Resilient Research Centre at Western Sydney University conducted a series of research activities. To better understand how the ethical behavioural science principles could apply to projects that impact children, we consulted with 74 children in Australia, Chile and Ghana; we interviewed 11 subject matter experts and practitioners in both applied behavioural science and in research with children; and we conducted a targeted literature review.

This discussion paper distils the findings from these research activities into three core principles that guide the ethical conduct of applied behavioural science projects that impact children. These principles are outlined below.

Accompanying this discussion paper is a practical tool – a decision-support checklist – for practitioners. The tool guides practitioners through key ethical decision points during an applied behavioural science project, and supports practitioners to identify when other perspectives may be needed.

1 Throughout this discussion paper, the term 'parent' is used loosely to refer to the person responsible for the child, be they a parent, legal guardian, caregiver or other influential adult family member.

Three principles guiding the ethical conduct of applied behavioural science projects that impact children

Principle 1: Children are involved in the decision-making process

Practitioners should provide space for children to meaningfully contribute to the decision-making about what is 'good' behaviour and what behavioural goals to pursue. Children should be asked (in age-appropriate ways) for their preferences where possible, and practitioners should assess the strength and consistency of these preferences. Understanding the socio-political environment, power dynamics and the risk of harm is crucial in determining how best to consult with children in these settings.

Practitioners should aim for participation that allows for greater child agency, such as informed and consultative participation, child-initiated participation or participation that reflects shared decision-making. Practitioners should avoid participation that is tokenistic or manipulative. Involving children meaningfully in the decision-making process can take many forms, such as using games or visual aids. Children should have the option to receive information and communicate their ideas verbally, through drawing, writing or other types of demonstration. If child consultation is not possible, practitioners should at least ensure that they consult adults who can be trusted to represent children's interests.

Principle 2: Behavioural goals and interventions are critically examined

Before embarking on an applied behavioural science project, practitioners should consider whether an applied behavioural science approach is the most appropriate course of action. Practitioners should take into account any power imbalances, such as conflicts of interest, that could undermine their ability to determine what goals are in children's best interests.

External reviews, such as institutional review boards and external advisory groups, can also help to counter potential biases in decision-making within the project team. There are useful activities project teams can undertake, such as red teaming and pre-mortems to think through and unpack any potential project- and intervention-specific risks, harms and impact. Some interventions can have a backfire or harmful spillover effect, and these need to be carefully thought through, monitored and mitigated. Practitioners must do all they can to ensure that projects do not unintentionally contribute to existing inequalities between children.

Principle 3: Interventions are transparent and promote autonomy

Central to the applied behavioural science approach is the idea that interventions should not restrict choice and that project goals should be transparently communicated. When designing an applied behavioural science intervention, practitioners should have a thorough understanding of the mechanisms by which it works to influence behaviour, and should determine how transparent it will be to those affected by it.

If a recipient of an intervention wants to opt out or ignore the intervention, they should have the freedom to do so. Practitioners should design mechanisms for opting out such that it is as easy as possible for children and parents to access them. Applied behavioural science project goals and results should be open to public scrutiny. Practitioners should design feedback mechanisms so that children and their parents can voice concerns, see the outcomes of their objections, and hold decision-makers to account.

INTRODUCTION

Why behavioural science is increasingly being applied with children

Organizations that work with children, such as UNICEF, are increasingly applying behavioural science principles and methods to improve outcomes for children.[2] There are many reasons for this, including mounting evidence that applied behavioural science can positively impact childhood development (List et al., 2018; Bernard van Leer Foundation, 2019), health outcomes (Chambers et al., 2021; Donato et al., 2020) and educational outcomes (Bergman, 2019); and that it can contribute to reducing inequalities (Bettinger et al., 2009). It has been demonstrated that behavioural science strategies have a robust positive effect on policy outcomes; an analysis of the effect of 349 interventions (reaching 24 million people) found an average improvement of 8.1 per cent (DellaVigna and Linos, 2020). Applied behavioural science initiatives can also have a high economic return on investment relative to more traditional policy interventions (Dolan et al., 2010). For example, an applied behavioural science intervention in the United States of America that simplified the application process for student enrolment in college showed a much higher impact to cost ratio (1.53 additional students enrolled per $1,000 spent) than interventions involving purely financial incentives (0.04 additional students per $1,000 spent; Benartzi et al., 2017).

Applied behavioural science interventions that target influential adults can also have positive impacts on children. For example, empathy-building exercises that asked teachers in a Tanzanian refugee camp to take the perspective of children were most effective at shifting teachers' opinions from supporting the use of corporal punishment in schools to disagreeing with it. Engaging with the empathy-building content reduced by 31 per cent the extent to which teachers agreed with corporal punishment, and by 26 per cent the number of situations in which they thought that hitting children was acceptable (Rodrigues and De Filippo, 2017). Examples of how evidence-based interventions can meaningfully impact children's futures are provided throughout this Discussion Paper to illustrate key concepts and principles.

Why we should think about the ethics of applying behavioural science with children

Behavioural insights are increasingly being embraced by international organizations as a tool to make policies and programmes more effective. The United Nations has established its own Behavioural Sciences Group focusing on the effective implementation of the Sustainable Development Goals (UN Innovation Network, 2021). The recently released United Nations Secretary-General's Guidance Note on Behavioural Science highlights key opportunities for the implementation of behavioural science across the United Nations, and a number of examples of applied behavioural science already in action are given in the United Nations Behavioural Science Report.

Ethical principles (such as justice and respect) that apply to research, policy and service design also apply to applied behavioural science projects. There is already strong support for practitioners to uphold ethical principles, for example, in projects and programmes conducted by UNICEF (Graham et al., 2013). However, the application of behavioural science to social policy challenges is still relatively new and the ethics of applied behavioural science is an emerging field (OECD, 2017; Sunstein, 2016). The ethical considerations of applying behavioural science to programmes or projects involving or impacting children have not yet been consolidated and articulated, and thus warrant attention.

2 In the Convention on the Rights of the Child (1989), the United Nations defines a child as any person under the age of 18. This discussion paper therefore uses the term 'children' to mean persons under the age of 18, unless specified otherwise.

Discussion paper methodology and approach

Due to the growing use of applied behavioural science to address the needs of children, this discussion paper seeks to bring together key ethical principles for applied behavioural science projects that impact children. To do so, we conducted a series of research activities, including:

- **Consultations with children**: Consultations were conducted with 74 children in Australia (aged 11–14 years), Chile (aged 14–18 years) and Ghana (aged 12–20 years). The aim was to research not only children's understanding and opinions of applied behavioural science approaches but also the ethical considerations associated with applied behavioural science projects that focus on children.[3] Children were recruited by UNICEF country offices (Chile and Ghana) and by the Young and Resilient Research Centre team (Australia), through schools and local youth-facing organizations in their networks. Children from each country participated in a workshop, either online or offline. Participants ranged in age from 11 to 20 years old, with a median age of 16.[4] The majority of participants (51 per cent) identified as female; 36 per cent identified as male; 4 per cent identified as gender diverse, and 8 per cent did not state their gender. Seventy-six per cent of participants were from urban areas, and 24 per cent from rural areas,[5] and their socioeconomic status ranged from lower- to upper-middle class. Participants in Chile and Australia were enrolled in junior or senior high school, while Ghana's workshops were made up of both in-school and out-of-school participants. Out-of-school participants were the children of subsistence farmers, who were working to support their families. The data generated by the workshops were analysed using thematic, discourse and visual analysis. Findings and quotes from these consultations are included throughout this discussion paper.

- **A targeted literature review**: A targeted review was conducted of research on ethical considerations (risks, benefits and mitigation strategies) when applying behavioural science to policies and service changes that directly or indirectly involve children. This included a review of: relevant academic research from around the world; grey literature produced by international organizations and consortiums and national governments; and research reports and position papers published by think tanks and universities, NGOs and other organizations. Of the sources cited in this discussion paper, 31 focus on work in low- or middle-income countries. The literature on the ethics of applied behavioural science does not typically specify particular contexts but rather speaks more generally about the ethical concerns raised by the approach. We have therefore sought guidance from the child ethics literature, consultations with children, and interviews with experts and practitioners to consider how to implement ethical principles in various contexts, such as those of low and middle-income countries.

- **Interviews with experts and practitioners**: 11 interviews were conducted with experts and practitioners in the fields of applied behavioural science, ethics and children's rights to build on the findings from the other research activities. Insights gained from these interviews inform both the content and form of this discussion paper.

3 The consultation guide can be found on Young and Resilient Research Centre website.

4 Of the 74 children, 73 were aged 18 years or younger, with one 20-year-old joining one of the workshops. The workshop activities were designed for those aged 15 to 18 years. The rationale for designing the workshops for older children was due to the complexity of the concepts that required greater maturity or experience in order to offer rich data. Workshop facilitators were advised that they could include younger children if they felt they could cater to their needs.

5 The Chilean facilitator noted that participants in both workshops were from urban populations as workshops were conducted online and children in rural areas have limited access to digital technologies.

The scope and limitations of this discussion paper

The scope of the discussion paper includes applied behavioural science projects that impact children both directly and indirectly. Applied behavioural science interventions can influence children's behaviour directly, such as behaviourally-informed health or education programmes that are communicated directly to children; they can also impact children indirectly, by communicating with, or seeking to influence the behaviour of parents, educators or healthcare providers.[6]

The literature on the ethics of implementing applied behavioural science approaches is relatively new and does not deal specifically with children. The literature on ethical research with children more generally, on the other hand, is extensive.

This discussion paper does not aim to reproduce existing ethical research guidance.[7] Rather, it outlines additional ethical principles that practitioners should reflect on when conducting an applied behavioural science project that impacts children. The principles outlined in this paper should be applied at multiple points during the project, for example: when defining the behavioural problem and specifying the target behaviour to change; when identifying the drivers of, and barriers to, the target behaviour; or when designing, evaluating and scaling interventions.

It is important to note that because the applied behavioural science approach has most often been implemented in public policy contexts, most of the relevant ethics literature focuses on how governments can apply behavioural science ethically. We draw heavily on this literature in this discussion paper but acknowledge that governments are not the focus of this paper; we provide guidance on how the ethical principles can be applied to the UNICEF context.

6 The term 'parent' is used in this discussion paper, however, we acknowledge that this relationship could be a legal guardian, caregiver, or other influential adult family member.

7 For example, the UNICEF Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis 2021, UNICEF's Ethical Research Involving Children (ERIC) compendium, and the National Statement on Ethical Conduct in Human Research, 2007 (Australia).

The 'Ethical Research Involving Children' project

The 'Ethical Research Involving Children' (ERIC) project is a collaborative international project that aims to assist researchers to conduct ethical research involving children and young people. A key output of this collaboration has been the ERIC compendium (Graham et al., 2013) and the associated website www.childethics.com. The compendium includes an 'International Charter for Ethical Research Involving Children' as well as guidance for researchers and institutions implementing research involving children. More detail on this guidance can be found in Annex B. The three key ethical principles underpinning research with children are: **Respect** – research should value children, recognize their dignity, and enable their experiences and perspectives to be taken into account; **Benefit** – researchers must ensure that they do not harm or injure children in the course of their research through acts of commission or omission; and **Justice** – researchers must be aware of the power differences between themselves and children and ensure that they listen and give due weight to children's views. The four main considerations are:

- **Harms and benefits:** For research involving children to be ethical, it must maximize potential benefits and do no harm. Children should not be harmed by their participation in research. Researchers need to consider potential benefits to those who participate as well as to children more broadly.
- **Informed consent:** All people, including children, have the right to participate in matters which affect them. This is particularly pertinent in research contexts, where participants should be able to consent to their involvement in an informed way.
- **Privacy and confidentiality:** A key consideration is respecting the wishes of children who participate in research and who prefer their involvement, identity or their data to remain confidential.
- **Payment and compensation:** Guiding this consideration are principles of justice, benefit and respect for research participants to be adequately acknowledged and compensated for their contribution.

The structure and audience for this discussion paper

The target audience for the discussion paper is 'practitioners' – UNICEF staff, the staff of international organizations and NGOs and governmental counterparts, who are currently using or intending to apply behavioural science in their work with children. These practitioners may be working in diverse contexts, in high, middle and low-income countries, and work with a broad range of subject matter, from health and sanitation to education or gender equality. Building on this discussion paper, we have developed a tool for practitioners to understand and apply ethical guidelines and considerations when undertaking applied behavioural science projects with children.

The first chapter of this discussion paper provides a primer on applied behavioural science ethical considerations. The subsequent three chapters articulate three core principles practitioners should take into account when designing projects or programmes of work that apply behavioural science to shift the behaviour of children, directly or indirectly.

Throughout this paper, reference will be made to the United Nations Convention on the Rights of the Child (1989).

Key ethical principles in the United Nations Convention on the Rights of the Child

The United Nations Convention on the Rights of the Child (1989) is a human rights treaty that outlines the rights to which children the world over are entitled. It underpins all of UNICEF's work. The Convention contains 54 articles that cover civil, political, economic and cultural rights. All these rights are important and should be considered when conducting projects that involve or impact children. However, there are two articles of the Convention in particular that are worth further consideration for all applied behavioural science projects that impact children:

- Article 3: The best interests of the child are a primary consideration for all decisions that affect children
- Article 12: Every child has the right to be heard in all matters that affect them, and to have their views respected and taken seriously

These articles have informed this discussion paper. In particular, the paper emphasizes child participation as a key way of ensuring that children's rights are respected throughout applied behavioural science projects. Per Article 12, child participation is about all children, including the most marginalized, having the opportunity to express their views and influence decision-making (Lyford Jones, 2010). Children are no less important than adults, and should be empowered through their participation to fulfil their potential as active citizens.

WHAT APPLIED BEHAVIOURAL SCIENCE LOOKS LIKE IN PRACTICE

"Behavioural science refers to an evidence-based understanding of how people actually behave, make decisions and respond to programmes, policies, and incentives. It enables us to diagnose barriers preventing people from adopting a certain behaviour, understand enablers that help people achieve their aims, and design more impactful interventions ... The Secretary-General's Guidance urges all colleagues to explore and apply behavioural science in programmatic and administrative areas and work together in an interagency way to realise its tremendous potential for impact towards the SDGs"

~ The Secretary General's Guidance Note on Behavioural Science

How people actually behave isn't always how one might expect. In contrast to the notion of humans as inherently rational beings, evidence from the behavioural sciences tells us that people do not always behave in line with their intentions or best interests (Thaler and Sunstein, 2008). An applied behavioural science lens offers a more nuanced and realistic model of how people process information, make decisions and behave.[8]

How people make decisions

To understand why people don't always behave in line with their interests, it is important to know a little about how humans make decisions. The dual-process model of cognition was succinctly articulated by Kahneman (2003 and 2011) as two types of thinking: one 'fast' and one 'slow'. The fast kind (also known as System 1 thinking) is automatic, effortless, and non-conscious, happening without people even realizing. Humans rely on System 1 when calculating 2 + 2, or when driving or walking a familiar route – they do it on autopilot. The slow kind (System 2) is deliberative and requires careful conscious thought. It is cognitively effortful and slow. Humans use System 2 thinking when calculating 17 x 26 or filling out a tax form. System 1 thinking is guided by mental shortcuts or rules of thumb, known as biases and heuristics. This thinking is also heavily influenced by cues in the environment or the way choices are presented. Sometimes people's reliance on these biases leads them to make decisions that are not in their best interests or in line with what they want. For example, our 'present bias' means that we focus heavily on what we want to do now, sometimes at the expense of our long-term goals. Parents, for instance, may want to read to their children more because they know it will be good for their child's development, but don't always get around to it because they are focusing on meeting their family's immediate priorities.

An applied behavioural science approach recognizes this realistic model of human behaviour and aims to develop solutions to steer people towards how they *want* to behave, rather than how they currently *do* behave. Applied behavioural science solutions are often referred to as 'nudges', which can be defined as "any aspect of the choice architecture that predictably alters people's behaviour without forbidding any options or significantly changing their economic incentives" (Thaler and Sunstein, 2008). However, disagreement exists over exactly what constitutes a nudge (Grüne-Yanoff and Hertwig, 2016; Sunstein, 2018), and applied behavioural science interventions vary widely.

8 The United Nations Behavioural Science Report 2021 provides a history of behavioural science at the United Nations, key definitions, behavioural science capacities in the United Nations system, key takeaways and case studies.

Typically, interventions involve changing a person's environment to steer them towards a particular behaviour, without taking choices away from them (Sunstein, 2018). For instance, one can send SMS reminders to parents about their child's attendance and behaviour at school (Berlinski et al., 2019); or, recognizing that providing parents with micronutrients for their child is not sufficient to ensure complete adherence to the treatment, programme managers may need to remove barriers to administering it to children (Bernal et al., 2015).

Applied behavioural science solutions can influence behaviour through System 1 *or* System 2 thinking. The example of placing healthy food at eye level to encourage healthy eating is a System 1 nudge: it relies on people's automatic system that sees the healthy food because it is more noticeable. On the other hand, providing easy-to-understand calorie labels on food products is a System 2 nudge because it helps people to rapidly make a better deliberative decision about which food to consume.

Social and behaviour change communication at UNICEF

The concepts discussed in this paper so far may sound familiar. UNICEF has been increasingly applying evidence from the behavioural sciences to its work.

What separates an applied behavioural science approach to behaviour change from other communications approaches is the emphasis on behavioural science evidence. Traditional communications approaches, such as many public health campaigns, may have attempted to change behaviour by providing information to enhance people's knowledge, for example, by simply telling people what public health authorities think people should know and do. However, increasing knowledge is not a reliable way to change behaviour.

Behaviourally-informed communications provide information in such a way that people will be likely to act on it. Furthermore, where traditional communications campaign approaches concentrate primarily on messaging, an applied behavioural science approach looks not just at framing, but also at the design and delivery of services, user experiences and the design of environments. Applied behavioural science projects can take many forms, from changing the way communications are presented to designing entire evidence-based behaviour change programmes that encompass service and programme delivery.

UNICEF's C4D approach differentiates behaviour change from social change. "Behaviour change is a research-based consultative process for addressing knowledge, attitudes and practices. Behaviour change enables groups of individuals to engage in participatory processes to define their needs and demand their rights. Social change is a deliberate and iterative process of public and private dialogue, debate, and negotiation that focuses on the community as the unit of change" (C4D website). While applied behavioural science alone is insufficient for social transformation, it does have a role to play, with social norms messaging yielding widespread shifts in behaviour (Hallsworth et al. 2016; Hallsworth et al. 2017; Reynolds 2019).

Common components of an applied behavioural science project

There are several published methodologies on how to conduct an applied behavioural science project (see, for example, OECD, 2019; Ideas42, 2019; BehaviourWorks, 2021; IRS, Deloitte and ASR Analytics, 2016; Schmied, 2017; Feng et al., 2018; Hallsworth and Kirkman, 2020) but, they generally follow a similar process to BIT's TESTS project methodology. The TESTS project methodology consists of five stages:

1. **Target**: Define the behavioural problem and specify the target behaviour to change
2. **Explore**: Conduct research to understand the context in which the behavioural challenge occurs and identify the drivers of, and barriers to, the target behaviour
3. **Solution**: Design behaviourally-informed interventions that aim to change the target behaviour
4. **Trial**: Test and iterate the intervention(s) to determine their effectiveness – often, but not always, with Randomized Controlled Trials (RCTs).
5. **Scale**: Scale up successful solutions

Some applied behavioural science projects will involve every stage of TESTS; other projects might focus only on just some of these stages. Two stages are common to all applied behavioural science projects: deciding what behaviour to change (Target) and how to change it (Solution). Some activities in an applied behavioural science project can resemble research. For example, in the Explore phase, the project team might conduct literature reviews, interviews, focus groups or surveys, or analyse existing administrative data. In the trial phase, the team may design evaluation methods (*see Annex A for a brief note on Randomized Controlled Trials*).

In this discussion paper, we explore how UNICEF and other organizations working with children can apply behavioural science principles to change behaviour, and to do so through strategies that are evidence-based and maintain freedom of choice.

Examples of applied behavioural science that impact children

Applying behavioural science in practice can take many forms. No two behavioural problems are alike, and every intervention needs to be designed to fit the specific context. However, some behavioural science strategies are gaining acceptance as ways to address common behavioural barriers or cognitive biases. Many of these strategies are summarized in the Behavioural Insights Team's (BIT) 'EAST' framework for designing solutions. If you want to encourage a particular behaviour, you should make it **E**asy, **A**ttractive, **S**ocial and **T**imely. See also the OECD BASIC toolkit (OECD, 2019) for another example of an applied behavioural science framework. Most applied behavioural science projects will incorporate several of these principles and other applied behavioural science strategies into their design.

Make it easy. The lesson that comes through strongest from the behavioural literature is that small, seemingly irrelevant details that make a task more challenging or effortful ('friction costs' or 'hassle factors') can make the difference between doing something and putting it off. By removing frictions in programmes and services, simplifying messages, and harnessing the power of defaults, practitioners can make it easier for individuals to act. Examples include:

- Providing teachers in Bangladesh with a simple toolkit to encourage the adoption of play-based learning to improve learning outcomes in pre-primary education (Jaiswal, 2020)
- Reducing plastic waste in Solomon Island schools by changing the default from single-use plastic containers to reusable containers (Behavioural Insights Team, 2020)
- Removing frictions in the United States college admissions process to increase the number of low-income students enrolling in selective colleges (Dynarski et al., 2021)
- Automatically enrolling parents to receive weekly messages on their child's academic progress to increase uptake and improve student achievement in the United States (Bergman, Lasky-Fink and Rogers, 2020)

Make it attractive. People's attention is drawn towards things that are made salient (i.e., highlighted to them) or made appealing (i.e., rewarding), and are more likely to act on something they pay attention to. For example, personalizing a message can attract attention because it makes the information seem relevant. Behaviour can also be encouraged by drawing attention to the costs and benefits of acting, or by designing rewards and sanctions so that they have a greater effect (for example, through gamification). Examples include:

- Using a suite of behaviourally informed tools (such as partitioning, salience, and leveraging social connections) alongside the provision of quality foods to families in Ethiopia to improve child nutrition (Donato et al., 2020)
- Using non-financial incentives and timely prompts to encourage Philippine children to wash their hands at school (UNICEF, 2019)
- 'Inoculating' people against COVID-19 misinformation on digital channels in India and Indonesia by teaching them about tactics used by purveyors of misinformation (UN Innovation Network, 2021)
- Encouraging stigmatized students in Lebanon to reaffirm their values prior to school exams to bolster their sense of self-worth and improve their performance (Nudge Lebanon, 2019)
- Sending text messages to parents in Colombia about their child's food entitlements to increase transparency and reduce government contractor corruption (Behavioural Insights Team, 2016)

Make it social. Humans are social beings and are heavily influenced by what those around them do and say. This can be leveraged, for example, by communicating to people when most others are performing the desired behaviour, by using the power of social networks, or by encouraging people to make a commitment to others about how they want to behave in future. Examples of this strategy being applied to projects that impact children include:

- Engaging religious leaders in Egypt as effective messengers of positive parenting information to eliminate violence against children (UNICEF, 2018)
- Leveraging school principals as key messengers to increase the likelihood that teachers report violence against children and women in Georgia (UN Innovation Network, 2021)
- Connecting girls in the Maldives with female role models in STEM to evoke interest in STEM careers (Behavioural Insights Team, 2021)
- Encouraging families to commit to protecting each other, and using salient prompts to increase hand-washing in Tajikistan (UN Innovation Network, 2021)

Make it timely. Timing is crucial to consider when designing behaviour change interventions. People are more likely to act on something when they are reminded about it at key moments, such as just before they would engage in undesired behaviour. Humans are also not very good at planning for the future because of their inherent bias towards the present. Interventions can help people to plan their response to events and can help them to see the immediate costs and benefits of their behaviour. Examples of making interventions timely include:

- Providing households in Lebanon with a calendar that uses applied behavioural science techniques such as implementation intentions and salient reminders to encourage parents to plan for and attend their child's upcoming immunizations (UN Innovation Network, 2021)
- Implementing a parent training package in routine healthcare appointments in the Caribbean to improve children's cognitive development and the parenting knowledge of their mothers (Walker et al., 2015)
- Using goal-setting techniques and text reminders to increase the time parents spend reading to their preschool-aged children (Mayer et al., 2015)
- Sending text messages to parents in Chile with timely information about their child's attendance and behaviour at school to improve performance and increase attendance (Berlinski et al., 2019)

The United Nations Innovation Network's living library includes further projects using behavioural science in the United Nations context.

A PRIMER ON APPLIED BEHAVIOURAL SCIENCE ETHICAL CONSIDERATIONS

Much of UNICEF's work depends on changes in human behaviour, for example, enabling children to go to school, eliminating violence against children, combating cyberbullying, increasing sanitization practices, or supporting parents to engage in play-based learning with their children.

As with other tools commonly used by governments and organizations to persuade or change behaviour, applied behavioural science tools and techniques have the potential to be used unethically. Applied behavioural science could be used to encourage people to behave in line with decision-makers' best interests rather than people's best interests. For example, a repressive government might encourage its citizens to report undocumented migrant families so that they could be punished, or an industry might use applied behavioural science to encourage behaviours that people find desirable in the short term, but detrimental in the long term, such as gambling or the consumption of unhealthy food and alcohol.

Paternalism: Deciding what behaviours to change

Paternalistic approaches can erode people's autonomy, personal agency and dignity where they infringe on individuals' freedom of choice (Dworkin, 2014). In the applied behavioural science context, the issue of paternalism relates to what behaviour is being influenced. Applied behavioural science interventions are designed by practitioners or policymakers to change a particular behaviour, and practitioners are therefore deciding on behalf of another individual which behaviours to encourage or discourage. For example, by implementing an intervention to increase the number of mothers who breastfeed, implementers are assuming that breastfeeding is best for children and mothers.

Nudges (a philosophy of steering – but not coercing – people toward behaviours they want to adopt) as laid out by Thaler and Sunstein (2008) guide people toward better decisions "as judged by themselves", without restricting their freedom of choice. By definition, therefore, nudges are supposed to both preserve autonomy and be in line with people's best interests. In practice, however, it can be difficult to determine what people want to do and to know how strong and consistent these preferences are (Sunstein, 2015a).

Paternalism takes on additional considerations when it comes to conducting applied behavioural science projects with children. Children have less autonomy than adults; in everyday life, decisions are often made for them, particularly when it comes to young children. Parents often decide what children should eat, who they should interact with, and how they should behave. In the child ethics literature, there has been a substantial push to reduce the level of paternalism in projects that impact children by genuinely and meaningfully involving children in the design and implementation of projects. This aligns with Article 12 of the Convention on the Rights of the Child (1989) that highlights children's right to express their views in matters that affect them.

Consulting with children alone will not address issues of paternalism, however. Key questions to ask here are whether children are likely to want to behave in this way, how strong their preferences are, and whether they would agree that such behaviour would be beneficial to children like themselves. For example, an applied behavioural science intervention may make healthy meals the default at catered school lunches. This is paternalistic in that it aims to protect children from their own harmful (long-term) choices. How to manage concerns around paternalism is discussed in Principle 1 (Children are involved in the decision-making process) and Principle 2 (Behavioural goals and interventions are critically examined).

Changing behaviour through manipulation

Thaler and Sunstein (2003 and 2008) consider 'nudging' or applied behavioural science as an approach that allows people the freedom to choose (that is, they are not being forced to behave in any particular way). However, there is a concern that applied behavioural science can be manipulative if the recipients of an intervention are not aware they are being influenced. If an intervention attempts to change behaviour through stealth, it is treating people as a means to an end, and peoples' freedom of choice is undermined.

To the extent that an applied behavioural science intervention relies on System 1 thinking that is non-conscious, this is a reasonable concern. Manipulation could undermine people's agency to determine their own course and develop their own preferences. However, while manipulation tends to have very negative connotations, there doesn't appear to be an agreed-upon definition of it; there is much debate over what counts as a manipulative intervention (Sunstein, 2015a). It is, however, worth reflecting on and minimizing the potential for an intervention to be manipulative.

Manipulation is a concern for adults and children alike because both engage in System 1 thinking. However, because children have evolving capacities (Article 5; Convention on the Rights of the Child, 1989) and experience less agency, there is reason to believe that even greater consideration is needed when conducting applied behavioural science projects that impact children. Even in interventions such as the healthy eating example above that are designed to promote welfare to the extent long term benefits outweigh potential harms, practitioners should consider whether their intervention sufficiently promotes autonomy such that if a child or parent disagrees with the goals of the project they are free to choose their own path. Principle 3 of this guidance (Interventions are transparent and promote autonomy) speaks directly to this issue.

Ethical guidance when applying behavioural science

The literature on ethics in the context of applied behavioural science is relatively new, but several different frameworks and guides have been published that aim to help practitioners to conduct their work ethically, for example:

- The OECD's BASIC toolkit (2019), which provides a framework for how to conduct an applied behavioural science project, and discusses the ethical considerations at each step;
- Lades and Delaney's (2020) FORGOOD framework, which suggests that policymakers should consider seven core ethical dimensions when nudging: Fairness, Openness, Respect, Goals, Opinions, Options and Delegation;
- Hallsworth and Kirkman's (2020) framework, which highlights two factors of ethical behavioural science that address the paternalism critique (Control and Transparency) and two that address the manipulation critique (Extent of consequences and Strength of preferences);
- Engelen's (2019) nine ethical criteria for health-promoting nudges, four of which address the paternalism critique and five of which address the manipulation critique;
- Jachimowicz, Matz and Polonski's (2017) Behavioral Scientist's Ethics Checklist, which outlines six ethical principles that companies (and behavioural scientists who work with them) should uphold; and

- Pykett and Johnson's (2015) series of ethical prompts to be considered in the application of behavioural interventions.

None of the published frameworks, as yet, explicitly focuses on applied behavioural science projects with children. It is also worth noting that behavioural science effects applied to projects are often developed and studied in a different subpopulation, and rarely with children. Research in the behavioural sciences (where these interventions may be drawn from) are overwhelmingly conducted with WEIRD samples, that is, with participants from Western, Educated, Industrialized, Rich, and Democratic societies (Henrich, Heine and Norenzayan, 2010). A 2008 study that reviewed the top psychology journals found that 96 per cent of participants were from Western industrialized countries (Arnett, 2008). The reasons for underlying behaviour in a subpopulation and the kinds of interventions that work may differ depending on the context. Therefore, the application of these frameworks must be contextualized and monitored for unintended consequences.

Ethical guidance when applying behavioural science impacting children

This discussion paper distils the insights and guidance from the consultations with children, the review of the child ethics literature and applied behavioural science ethics literature, and interviews with subject matter experts, into three core ethical principles for practitioners designing and delivering applied behavioural science projects that impact children. The next three chapters of this paper outline the three ethical principles and discuss how each principle should be considered and applied.

The three ethical principles are:

1. Children are involved in the decision-making process
2. Behavioural goals and interventions are critically examined
3. Interventions are transparent and promote autonomy

These three principles have been identified based on key ethical guidance present in child ethics literature and applied behavioural science ethics literature. Principle 1 aligns heavily with a child rights perspective (Convention on the Rights of the Child, 1989) but is also key to the approach of applied behavioural science that emphasizes steering recipients towards goals that they want for themselves and the key nudge question of 'who decides what is good'. Principle 2 focuses on the need to ensure that when seeking to change behaviour, the behavioural goals and interventions chosen will benefit children and that harms will be minimized. Principle 3 focuses on addressing concerns around manipulation, which are raised in both the applied behavioural science ethics literature and the child ethics literature, given that children's evolving capacities mean they may be at greater risk of manipulation.

Just as practitioners must ensure that a project is consistent with their organization's values, they need to do the same when undertaking an applied behavioural science project. For example, practitioners should evaluate the intended social impact of the project and identify whether the project could give rise to any conflict of interest, legal or security concern, or reputational damage. This discussion paper provides practitioners with additional guidance that is particularly relevant to the applied behavioural science approach. However, as with all projects, professional judgement and alignment with organizational values and goals are paramount.

Whether applied behavioural science is used or not, practitioners are already ensuring that their work is ethical by evaluating the harms and benefits to children of projects they pursue. Ethical applied behavioural science projects that impact children rely on this same philosophy, but there are some ethical considerations that are particularly important to reflect on when conducting an applied behavioural science project.

PRINCIPLE 1: CHILDREN ARE INVOLVED IN THE DECISION-MAKING PROCESS

Summary of Principle 1

- Practitioners should provide space for children to meaningfully contribute to the decision-making about what is 'good' behaviour and what behavioural goals to pursue.
- Children should be asked (in age-appropriate ways) for their preferences where possible, and practitioners should assess the strength and consistency of these preferences.
- Understanding the socio-political environment, power dynamics and the risk of harm is crucial in determining how best to consult with children.
- Practitioners should aim for participation that allows for greater child agency, through informed and consultative participation, child-initiated participation or participation that reflects shared decision-making. Practitioners should avoid participation that is tokenistic, for appearance's sake or manipulative.
- Meaningful involvement of children in the decision-making process can take many forms. Children should have the option to receive information and communicate their ideas verbally, through drawing or writing, or other types of demonstration.
- Parents and others who can be trusted to represent children's interests will also play an important role, particularly in situations where child consultation is limited.

Practitioners need to ensure that applied behavioural science projects are conducted with respect for the dignity, wellbeing and rights of the child as articulated in the Convention on the Rights of the Child (1989). The Convention recognizes the agency and participation of children in all activities that affect them, and codifies their right to protection in these processes. These ideals are further articulated in UNICEF's three foundational principles for ethical research involving children (ERIC): respect, benefit and justice (Graham et al., 2013). These principles ensure that children are viewed as persons in their own right, capable of meaningfully participating in research, and that any research undertaken aims to genuinely improve children's lives and circumstances.

For the children in the consultation workshops conducted as part of this discussion paper project, an applied behavioural science project is considered unethical if the project decision-makers fail to keep the interests of the child at the forefront of the project, or if a behaviour change is to be achieved in an inappropriate or otherwise unethical way.

"Respect us and see us as complex individuals. Always remember that although we are less experienced, our opinions and values are just as real as those of an adult."
~ Chile workshop

"Children should be treated with dignity; children should be able to share their point of view; children must feel comfortable; seek the consent of the children."
~ Ghana workshop

When consulting with children, practitioners need to carefully consider how much they will incorporate children's preferences into the design of their project. Practitioners should be careful not to over-promise to children in consultation if it is unlikely that their feedback can adequately be addressed.

Involve children when deciding behavioural goals and designing interventions

In the process of conducting an applied behavioural science project, practitioners decide what behaviour to encourage (or discourage). These decisions are typically made in the early stages of a project but also at key points throughout where goals might shift. Children should be engaged in these early stages of the project. Children should also be part of the co-design of the intervention so that questions about user-acceptability and user-experience can be addressed by the end-users of the intervention. So too, when scaling an intervention, practitioners should work with children to decide whether the original goals are still appropriate in the new target context and with the new target audience.

Decision-makers in the applied behavioural science process are in positions of power over those targeted by an applied behavioural science intervention (Pykett, 2020). As such, the recipients of the intervention, in this case children or associated adults, should be consulted about what they consider to be 'good' for them (Pykett and Johnson, 2015). This is key to addressing concerns of paternalism. In their definition of a nudge, Thaler and Sunstein (2008) argue that nudges should aim to make people "better off, *as judged by themselves*". By treating children as experts of their own behaviour, consultations and co-design can ensure this expertise is incorporated into the design of an applied behavioural science project. This is also in line with the children's right to participate in the decision-making that impacts their lives (Convention on the Rights of the Child, 1989; Convention on the Rights of the Child General Comment No. 12, 2009; see also, Hart, 1992). The children we consulted also reiterated the importance of this right:

"Children should be involved because they have the right to participate in issues concerning their development." "Children…must be involved because their voices are important and are needed to make the right decision."
~ Ghana workshop

"Teenagers should participate because they are directly affected by this decision and to deny their ability to dialogue and take charge would be a step backwards [from] the change we want to promote."
~ Chile workshop

Some participants felt that children would be able to make better decisions about whether an applied behavioural science project was in line with their best interests than would adults. These children rejected what they perceived to be adult-centric notions of 'good' and felt that at times these values were imposed on them.

"The younger generations should have a say [because] they are more accepting and will do it better."
~ Australia workshop

Consulting with children about what goals to pursue shows respect for their autonomy to decide what is best for them. Practitioners, however, will need to balance this respect with an acknowledgement that parents have a responsibility to ensure their child's safety and well-being (Munford and Sanders, 2004).[9] Thus parents also have an important role to play in helping practitioners to ensure that their project aligns with the best interests of their children. This will especially be the case in situations where children are very young or where consultation with children is limited. In an ideal world, every project would provide space for children to meaningfully contribute to decision-making, but this may not always be possible. There may be situations where children's evolving capacities mean that they are not deemed to have sufficient maturity to evaluate their long-term interests. As a minimum standard, practitioners should consult with adults who can be trusted to represent children's interests. Parents are often the best candidates for this. Child advocates, particularly those who understand the local context, can also be consulted.

Practitioners need to identify the adults best placed to represent the children's interest on a project-by-project basis, while at the same time aiming as far as possible to genuinely incorporate children's perspectives into the project. The focus of the remainder of the discussion of Principle 1 therefore is on how practitioners can meaningfully involve children in their projects.

Assess the strength and consistency of children's preferences

The behavioural sciences literature tells us that people aren't always good at knowing – or doing – what they want (Thaler and Sunstein, 2008). People have conflicting preferences; what they want in the short-term isn't necessarily what they want in the long term (Thaler and Shefrin, 1981). For instance, an individual might really want to eat the packet of chocolate biscuits that is right in front of them because of their evolutionary drive for high-sugar foods but *also* want to maintain their health in the long run. In this case, their *present bias* tends to favour their short-term desires, often going against their better judgement (O'Donoghue and Rabin, 2015).

Children may be even more likely than adults to give in to their short-term momentary impulses. Executive functioning continues to develop as children get older. For instance, school-aged children are better at controlling their wants and needs than preschoolers (Anderson, 2002). When deciding which preferences practitioners should base their goals on, Sunstein (2015a) argues that preferences that come from people's conscious reflections (maintaining health) should be prioritized over their momentary impulses (eating the biscuit) – although he does not discuss children specifically. He acknowledges, however, that short-term pleasures should not be discounted for they also contribute to well-being.

Hallsworth and Kirkman (2020) suggest that the strength and consistency of people's preferences is an important ethical consideration. If people have strong preferences that can be reliably measured, then practitioners can be more confident that they are helping people to behave in line with their goals. However, if people's preferences are weak, or are unstable and change over time, it is difficult to know what 'better off' means for them (see also Lades and Delaney, 2020).

9 In research activities this is often discussed with regards to informed consent, where parental consent may be legally required for children to participate. More discussion about this can be found in Annex B.

Where possible, children should be asked (in age-appropriate ways) for their preferences, and practitioners should assess the strength and consistency of these preferences. Practitioners will face situations where it is difficult to assess children's preferences, where children's preferences are weak or unstable, or where the children consulted are not considered to have the maturity necessary to evaluate the various consequences of acting in line with their preferences. There may also be instances where consultations with children would create more of a burden than a benefit. For instance, some in the applied behavioural science ethics literature argue that to respect people's autonomy, people shouldn't necessarily be asked to make a conscious decision about every little thing that impacts them (Sunstein, 2015b; Halpern, 2015). People should be free to focus their attention on decisions they care most about, and not on those they don't. To create a more holistic picture, practitioners should also consult with parents or others who can be trusted to represent children's interests about what they consider to be in the best interests of children and the potential harms they foresee.

How to meaningfully involve children in the decision-making process

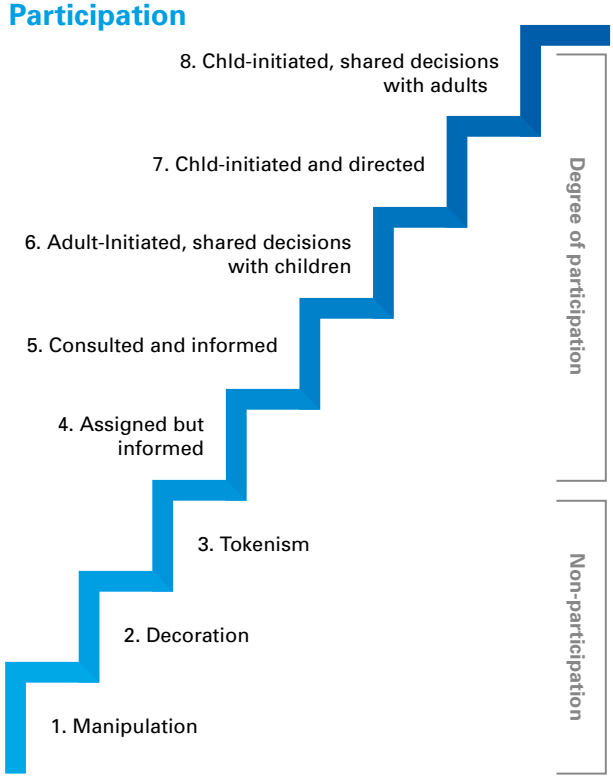
Consultations with children can help practitioners to assess whether their applied behavioural science project is likely to make children "better off, as judged by themselves" (Thaler and Sunstein, 2008). However, there are some important caveats to keep in mind. Assessing people's preferences is not always an easy task (Lades and Delaney, 2020; Hallsworth and Kirkman, 2020), and it may be even more challenging with children. Inherent power dynamics between an adult practitioner or researcher and a child can bias how much a child reveals about their true preferences (Morrow and Richards, 1996). Practitioners can adopt approaches that help to address this challenge. For instance, best practice in child participation involves ensuring that the person interviewing the child has developed a rapport and is trusted by the child (Irwin and Johnson, 2005; Huang et al., 2016; Gibson, 2012). Practitioners should aim to put children at ease and be transparent with them about how their information will be used (Alderson and Morrow, 2004).

Practitioners should consider how they can include children's perspectives in meaningful ways, including the type and level of participation. For instance, methods of consultation such as using games or visual aids may be needed to provide younger children or children with disabilities opportunities to participate in the project (see for example Graham et al., 2016; Harcourt et al., 2011; Scott-Barrett et al., 2019; Sumsion et al., 2014).[10]

10 For additional examples of participatory and consultative research with children from diverse backgrounds see the ERIC project case studies.

One framework for understanding different levels of child participation is the Ladder of Children's Participation developed by Hart (1992), which represents different approaches to child participation on a metaphorical ladder, with higher 'rungs' representing increasing levels of child agency, control or power (see figure, right). The bottom three rungs of the ladder describe activities where children are not afforded the agency, control or power to adequately participate. Although the appropriateness of a ladder to represent the issue has been debated (Hart, 2008), the model is widely used to describe different kinds of children's participation. As a general principle, participation should be maximized throughout the project, where feasible. Practitioners should aim for participation that allows for greater child agency, such as informed and consultative participation, child-initiated participation, or participation that reflects shared decision-making. Practitioners should avoid participation that is tokenistic or manipulative.

Figure 1: The Ladder of Children's Participation



Source: Adapted from the Ladder of Participation: Hart, R.A., 'Children's Participation: From tokenism to citizenship', Innocenti Essays No. 4, UNICEF International Child Development Centre, Florence, 1992, p.8.

Make the consultations age-appropriate

At all stages of a project, children should be engaged in ways that meet their level of understanding, competence and maturity – known as evolving capacities (Alderson and Morrow, 2004; Convention on the Rights of the Child, 1989). Age is not the definitive marker of a child's level of maturity or development, which is why binary cut-offs and strict rules based on age are not generally recommended in ethical guidelines. Some countries stipulate that children can provide consent to participate in research if they are determined to have sufficient maturity to understand and consent (e.g., Australia; National Health and Medical Research Council, 2007). Awareness of the general differences between older and younger children may serve to guide the design and preparation of ethical applied behavioural science projects, especially if the target audience for the intervention varies across different developmental stages and ages.

Generally speaking, a child's capacity to understand consequences and weigh up risks and benefits increases with age. In our consultations, many children recognized that age and developmental stage should be a factor in children's involvement:

"Participation of children and adolescents should be according to their level of understanding of the issue."
~ Chile workshop

"They have to be old enough to have an opinion, like six or seven years old."
~ Australia workshop

There will, however, be variance in cognitive ability and communication preferences among children of the same age or developmental stage. This means there is no hard and fast rule for ensuring transparent communication is achieved. For this reason, it is important to ensure that practitioners have a range of communication methods at their disposal when informing children about the applied behavioural science project. For example, children should have the option to receive information and communicate their ideas verbally, through drawing, writing or other types of demonstration (Article 13; Convention on the Rights of the Child, 1989). Planning for a variety of preferences and abilities, regardless of age, demonstrates that practitioners value the child's evolving maturity and agency (Article 5; Convention on the Rights of the Child, 1989).

Considerations when consulting children in humanitarian contexts

The core ethical principles of beneficence, respect and justice apply universally. However, challenges arise in the practical application of these principles in different world contexts (Powell et al., 2012), particularly where children are exposed to humanitarian emergencies (Powell et al., 2011). Children living in areas affected by a humanitarian emergency often experience unstable conditions which can greatly increase physical, emotional and social vulnerabilities (Berman et al., 2016).

The value of a proposed applied behavioural science project needs to be carefully considered and demonstrated to be in the interests of any children who are involved, directly or indirectly. Understanding the socio-political environment, power dynamics and the risk of harm is crucial in determining how best to involve children in the decision-making process and whether the intervention is appropriate for the humanitarian context. It is recommended that humanitarian actors and any aid agencies working in the local area are consulted during this initial process as they have the context-specific expertise to advise on what will best serve children's needs. They may also be able to advise on how best to engage children in a meaningful way in that environment and what potential harms need to be avoided, mitigated or planned for.

As with all projects, an applied behavioural science project should not go ahead if children cannot be referred to appropriate support services (Berman et al., 2016). Children may need support as a result of participating in the design or implementation of a project; for example, they may need to be referred for psychological support or to child protection services if they disclose experiences of abuse during their participation. Heightened social and political vulnerabilities in humanitarian contexts can increase the need to maintain privacy and confidentiality (Hart and Tyrer, 2006). This extends beyond the duration of the project as those living in a humanitarian context are potentially at a higher risk of danger or damage if their data security is compromised (Bergtora Sandvik et al., 2014).

It is also critical to uphold the ethical principles underlying informed consent and compensation (*see further, Annex B*). Obtaining genuine and informed consent from children and parents is more challenging in humanitarian contexts for several reasons. Crucially, the power dynamics between humanitarian and government actors and those impacted by a crisis mean that children and parents are often dependent on these actors for resources. This can compromise the consent process as children (or adults providing consent) may believe that their circumstances will improve if they participate in the research, especially if it originates from abroad; for example, they may hope to gain access to food or other resources from overseas aid programmes (O'Mathuna, 2010). The principle of transparency should be applied when consulting with children and when communicating the benefits and risks during the consent process to ensure that consent is not given in the hope of receiving something that cannot or will not be provided (see further, Principle 3). The unpredictable nature

of humanitarian emergencies means that ensuring ongoing consent and identifying the ways that participants can withdraw consent needs to be explicitly planned for and communicated.

Considerations when consulting with marginalized children

The applied behavioural science ethics literature discusses the importance of considering the potential for unintended redistributive effects from interventions, and this is just as true for interventions that impact children. For example, an intervention that places healthy food higher up in a school canteen to make it more prominent may have the unintended consequence of making it more difficult for children with wheelchairs to see. Equity considerations should be reflected upon at all stages of an applied behavioural science project. For instance, when deciding what behaviour to encourage or discourage, what is considered 'good' for children may depend on their socioeconomic background, gender, race, ethnicity or disability status.

Practitioners should be cognizant of this when designing interventions for their target population and considering whether they can be applied equitably. What is best for one child may not be best for another; the perspective of refugee children on what is in their best interest may be very different from that of local children living in the same community. Ensuring that a diversity of views is reflected throughout the project and measuring the impact of an intervention on different groups of children can help to mitigate this risk.

Applied behavioural science also provides solutions to some of the practical challenges associated with being inclusive when consulting with children. For instance, consent forms or project information could be redesigned to be simple and easy to understand. In line with the behavioural science literature on the importance of social connections (Behavioural Insights Team, 2014), practitioners could consider asking trusted adults or service providers already involved in the child's life to conduct an interview on their behalf. However, practitioners need to ensure that the adult is indeed trusted by the child. Practitioners should also recognize that some children may find it easier to be open with strangers about sensitive topics. The decision about who is the best person to consult with children should therefore be made on a case by case basis.

Ethical considerations that can arise when working with disadvantaged children in other types of research can also arise in applied behavioural science projects. Consider the example of an applied behavioural science project that aims to enhance the wellbeing of sexual and gender minority youth. Consultation with adolescents typically requires parental consent, but this would require adolescents to reveal their sexual and gender minority identity to their parents, putting them at risk of stigmatization or abuse (Schrager et al., 2019). The parental consent requirement may compromise the validity of the study findings because it skews the sample towards children who are out and have supportive relationships with their families. In cases like this, practitioners may consider requesting a waiver of parental consent from an ethical review board. Issues such as these are not unique to applied behavioural science projects, but they can certainly arise and require additional thought and strategies to appropriately address them.

Practitioners should also be aware that when children have multiple marginalized identities, these do not operate in isolation but can combine to create unique experiences of disadvantage; thus, for example, Romani girls can experience harassment based on their age, gender and ethnicity (Ravnbøl, 2009). Understanding these experiences and creating equitable solutions is a key challenge for practitioners.

All children have the right to be heard and for their experiences to inform research and policies which impact them. As much as possible, therefore, children with additional vulnerabilities should be included in the design and development of an applied behavioural science intervention. The children we consulted in the workshops also recognized the importance of consultations being inclusive. Participants felt that efforts must be made to consult with children from diverse backgrounds, in particular those who are typically marginalized or excluded from decision-making processes.

Consulting with children about what is good for them, but also what is good for society

There may be situations in which the aims of an applied behavioural science project are not purely about improving the lives of the children and adults they target, and yet they may still be ethically justifiable: for example, interventions that aim to promote pro-environmental behaviours (Schubert, 2017) or that encourage volunteering or giving behaviours (Behavioural Insights Team and Rideau Hall Foundation, 2018). Where children are impacted by these projects, practitioners should still seek to consult with children about their views and provide them space to reflect on wider societal issues where relevant. Similarly, the ERIC guidance for researchers notes that the potential benefits of a project should be evaluated not only for the children directly involved in research but also for children more widely (Graham et al., 2013).

The children we consulted were attuned to the benefits of pursuing goals beyond improving the lives of children. Indeed, children felt that an applied behavioural science intervention should not just benefit the target group; it should also benefit the wider community, or the target group beyond the issue at hand, or, indeed, the environment.

"All children and adults decide that creating this behaviour change is a good thing since it benefits all of society."
~ Ghana workshop

"Children and adolescents are the ones who can decide to change the future and the situation. The decision can also be made with everyone, including adults"
~ Chile workshop

As always, professional judgment is needed when evaluating what 'good' means for children as well as for society more broadly. In those situations where children's consultations are difficult or reveal unclear answers, it is even more important to seek external viewpoints (see also Principle 2: Behavioural goals and interventions are critically examined).

Case study: A school-based intervention to encourage handwashing

About the project. Handwashing with soap can prevent many common childhood illnesses and diseases. Yet infection and diarrhoeal diseases remain a leading cause of preventable childhood death in the Philippines. In 2019, the Department of Education, UNICEF Country Office, and IDinsight designed and evaluated a school-based applied behavioural science intervention to encourage handwashing. This included:

- Painted footpath with spray-painted footprints from toilet stall to handwashing area: To remind and lead students after toilet use to the handwashing station

- Calendar of posters about handwashing in a toilet stall: To remind students to wash hands with soap immediately after toilet use, combating forgetfulness and delivering motivating messages about cleanliness and fitting in
- "Watching eye" sticker above water source (faucet or bucket) of handwashing area: To simulate the presence of others watching the students, which research indicates can create social pressure and encourage people to wash hands
- Arrow sticker pointing to soap dish by handwashing area: To remind students to wash hands with soap and to remind teachers to put out soap

The applied behavioural science intervention was robustly evaluated using a cluster randomized controlled trial design, with 66 public elementary schools in the Philippines placed into the treatment group where the four prompts above were installed, and a further 66 randomly selected schools in a business-as-usual control group. The evaluation found that four months after the intervention was implemented in schools, handwashing rates more than doubled.

Choices made regarding children's involvement in decision-making

- The project team designed some initial prototypes based on international evidence (see, for example, Dreibelbis et al. 2016). The team then built on these ideas with elementary-school-aged children, co-designing further iterations of the messaging and imagery.
- An experienced facilitator worked with children in a focus group to get their feelings on the proposed campaign and posters. In the focus groups, there was a consensus among the children that washing hands was a good behaviour to engage in and encourage. Children were asked about their understanding of the message. Children felt that the message – they should wash their hands – was clear.
- The facilitator involved children in the discussion of risks and mitigation strategies. A risk was identified that children may be bullied or teased if they were seen not to wash their hands and were perceived to be dirty. The recommendation from the children consulted was that the posters and campaign should frame handwashing as a positive behaviour that will get you accolades, rather than framing a failure to wash hands as a negative behaviour that you will be scolded for. For example, the children suggested that the children depicted in the posters should be seen to be getting a star or should be glowing.
- It was also important to test imagery with young students as they have more limited ability to decode images. Messages and images needed to conform to their expectations to be comprehensible. This led the project team to switch to a footprint design that included toes, as the children found footprints with toes much easier to understand.
- For the facilitator, it was important to conduct the session in a child-friendly manner. The facilitator sought to give agency to the children and generate discussion and talking amongst the children. Instead of a classroom setting with the teacher standing at the front and giving children permission to speak when they raise their hands, the facilitator sought to reduce the power imbalance by asking the children to sit on the floor with him and the children were given physical copies of the materials to handle, pass around, and pull apart.

Case study: Consulting with children about increasing ethical behaviour online

About the project. Technology has fundamentally altered the way that children develop. However, with so much rapid change, children are often left navigating this connected, digital world with little support. Many organizations, schools and governments react by trying to help children avoid risks, or by attempting to restrict technology use. Where programmes or initiatives do succeed in preventing unsafe behaviours – and often they do not – they fall far short of giving children the skills and experience to behave ethically themselves in the future. In 2017, the Vincent Fairfax Family Foundation and the Behavioural Insights Team in Australia launched the Code for Online Decision and Ethics (CODE) programme. With scientific evidence and collaboration with children at its core, the programme aimed to give children the agency to play their own role in making the digital world a better place. The ideation, co-design and iteration during this programme of work resulted in a 'Digital Compass' – a school-based intervention that takes children through a series of practical activities designed around common online experiences.

Choices made regarding children's involvement in decision-making

- The project team consulted and co-designed with over 450 young people aged 12–16 years throughout 2017, 2018 and 2019. This provided a deep understanding of the issues young people face online. It also allowed for genuine co-design of solutions and meant that solutions could be piloted and iterated based on young people's feedback to ensure they met the target cohort's needs. In line with the principles emphasized by children in the co-design activities, the resulting intervention supported children to determine what they *can* do online, rather than focusing on what they can't.

- The early phases of the project involved consultation and co-design activities with children aged 12–16 years. This included: forming a youth advisory panel; conducting an online diary study, a series of semi-structured interviews and small focus groups; a two-day research and a co-design event (the NoFilter Forum); online user testing; and piloting of the chosen solution with 300 students.

- The project team also recognized that it was important to gather insights from children from diverse backgrounds within the broad target age range of the project. The main recruitment method (social media advertising) gave children the opportunity to express their interest in participating in the project. This empowered children to actively opt into the research activities, rather than being volunteered by their parents to participate.

- As participants were being recruited from the general population and a judgement could not be made on their cognitive capacity, maturity and digital literacy, a default approach of obtaining parental consent was applied for all activities. When registering their interest, young people were asked to provide their parent's contact details so that their consent could be obtained.

PRINCIPLE 2: BEHAVIOURAL GOALS AND INTERVENTIONS ARE CRITICALLY EXAMINED

Summary of Principle 2

- Before embarking on an applied behavioural science project, practitioners should consider whether an applied behavioural science approach is the most appropriate course of action.
- Practitioners should reflect on power imbalances, such as conflicts of interest that could undermine their ability to determine what goals are in children's best interests.
- External reviews, such as institutional review boards and external advisory groups, can also help to counter potential biases in decision-making within the project team.
- There are useful activities project teams can undertake, such as red teaming and pre-mortems to think through and unpack project- and intervention-specific risks, harms and impact.
- Some interventions can have a backfire or harmful spillover effect and these need to be carefully thought through, monitored and mitigated.
- Practitioners should ensure that projects do not unintentionally contribute to existing inequalities between children.

Behavioural goals, that is to say the behaviour a project seeks to change, should be critically examined at the beginning of the project and revisited throughout. Similarly, behavioural interventions need to be critically examined during the design and implementation stages of a project.

Before embarking on a project, practitioners should consider whether an applied behavioural science approach is the most appropriate course of action (Lades and Delaney, 2020; Pykett and Johnson, 2015; Clavien, 2018). An applied behavioural science approach is only one of many tools in the policy or programme design toolkit, and practitioners should consider whether other options would have more impact. The choice should be based on what is likely to have a positive impact on children and communities, as well as what barriers are at play, the feasibility of implementation, and the authorizing environment. For instance, children may not be going to school because they don't have the means to get there. If multiple structural and behavioural issues are at play, practitioners should carefully consider how they interact and which combination of interventions is likely to have the greatest impact. If, for example, parents of adolescent girls believe that leaving school and getting married is of greater importance than gaining an education, then structural changes that support gender equality may be more impactful than proceeding with a behavioural science intervention that focuses on education. Applied behavioural science projects that are supported by an authorizing environment have a greater chance of success.

When deciding whether a behavioural science intervention is appropriate, a preliminary feasibility analysis may include the following questions:

- What outcome do you want to improve? Is the outcome a behaviour, action or decision?
- For the behaviours identified, what would success look like? Can the behaviour realistically be shifted?
- How do you know this is a problem? Can you measure the behaviour? Do you have baseline data?
- What are the constraints around the problem? What are the policy levers, community sensitivities and political priorities?
- Who are your key stakeholders? Is there an authorizing environment for the project? Are the key stakeholders on board with the project?

If is determined that there is value in applying behavioural science to the challenge, practitioners should then act in line with Richard Thaler's (2015) plea – "nudge for good". Article 3 of the Convention on the Rights of the Child states that for all activities that impact children, the best interests of the child should be a primary consideration. In the case of projects that seek to influence children's behaviour, the goals of the project should reflect the interests of those targeted in that particular setting. The wider applied behavioural science ethics literature strongly agrees with the idea that it is the best interests of the recipients, not those of the practitioners, that should be at the forefront of the project (Hallsworth and Kirkman, 2020; Jachimowicz et al., 2017; Sunstein and Reisch, 2019; Lades and Delaney, 2020; Thaler, 2015; OECD, 2019; Renaud and Zimmerman, 2018; Clavien, 2018). Children we consulted agreed that project goals should be good for children:

"If the measure of [the behavioural intervention] is only to benefit the school, then we do not find it good. But if the message is sent out of concern for the students to increase their performance then yes, it is good."
~ Chile workshop

The extent to which a child has the agency and freedom to make their own choices influences the types of applied behavioural science projects that can be designed for their benefit. In some countries children may have fewer choices or freedoms available to them, where, for example, they face external pressure to earn income. Sometimes older children may have greater freedom to make decisions in their life compared to younger children; for example, an older adolescent might be able to attend a sexual health check-up or make choices about contraception (facets of life that applied behavioural science projects could target).

Moreover, ensuring that children are not harmed by activities that impact them is fundamental to child rights (Convention on the Rights of the Child, 1989; Graham et al., 2013). Evaluating and minimizing harms is also key to ethical applied behavioural science projects (Hallsworth and Kirkman, 2020; Jachimowicz et al., 2017; Lades and Delaney, 2020; OECD, 2019; Efendic et al., 2015). Applied behavioural science projects which aim to change a child's behaviour should not put the child at risk of harm during any stage of the project or beyond. Similarly, a project that focuses on influencing the behaviour of adults should not adversely affect children. While risk assessments and mitigation strategies should be implemented as part of any UNICEF project, projects that focus on changing

human behaviour should explicitly check and validate assumptions associated with short- and long-term harms and benefits, and look for unintended consequences.

Reflect on power imbalances, especially when consultation is limited

Halpern (2015) argues that when governments apply behavioural science to policy, those decision-makers are ultimately democratically elected officials, and that part of the job of elected officials is to make decisions on behalf of their constituents. Governments who have been democratically elected by (and can be held accountable to) the public may therefore be in a good position to make decisions about the aims of an applied behavioural science project.

Although children are generally not given a vote, groups and organizations that represent children's interests (such as UNICEF) can still hold officials accountable. Different considerations may be needed when decision-makers are practitioners and are therefore not democratically elected. However, the same principles of acting in citizens' best interests and being accountable to the public apply. For many UNICEF projects, governments may also still play a role, for example, by providing funding or guidance about what goals to pursue.

Because of the inherent power imbalance that exists between adults and children, practitioners must reflect on the power differential that exists between them and the children (and those around them) who are being impacted by their intervention. Children we spoke to were highly attuned to the impact that power differentials can have on children's agency. Children especially reflected that authoritative figures and institutions hold power in applied behavioural science projects, and emphasized that with this power comes responsibility for decision-makers:

"Governmental organizations [hold power and] it is not necessarily a bad thing but it is a great responsibility."
~ Chile workshop

Practitioners should reflect on any conflicts of interest they may have that could undermine their ability to determine the goals that are in the children's best interests (Lades and Delaney, 2020). For instance, the practitioner's (or their family's) involvement in the community could jeopardize their capacity to be impartial (see Berman et al. 2016; see also UNICEF Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis 2021 for procedures regarding disclosure of conflicts of interest and accountability).

Look for potential unintended consequences and inequities

Critical examination of unintended consequences is necessary when designing behavioural goals and interventions. In particular, look for potential backfire or harmful spillover effects that need to be carefully thought through, monitored and mitigated (Lades and Delaney, 2020; OECD, 2019; Renaud and Zimmerman, 2018). For instance, encouraging families to conserve energy by reducing heating in winter can be beneficial for the broad population, but this is a potentially dangerous message for fuel-poor families (Gordon, 2016). Even nuanced messaging to the head of the household encouraging potentially beneficial energy-efficient home modifications can cause additional burden and stress (Grey et al., 2017). Similarly, an intervention that places warning labels on sugary drinks with images of children with obesity might reduce sugar consumption (Donnelly et al., 2018), but it may also stigmatize children with obesity (Hayward and Vartanian, 2019).

A core principle underpinning applied behavioural science is that people are heavily influenced by their environment; what works in one context won't necessarily work in another. For example, an intervention that aims to combat sexual violence against girls may affect people in Australia differently from people in Ghana, or Mongolia or India. Potential harms again need to be identified and mitigated when scaling a previously successful intervention. When an initial pilot or trial demonstrates positive results there is often a desire to scale it up, but this may not work as expected. If the scaled-up project is changed dramatically, the positive effects may not be realized and unintended consequences may result (OECD, 2019; Alderson and Morrow, 2020). This points to the importance of consulting widely and engaging local experts when designing or scaling interventions, and of considering potential harms to the most vulnerable children in the target group.

Ensure particular groups of children aren't harmed by unfair interventions.

When reflecting on who may be harmed, consideration should also be given to whether some particular children are harmed more than others (Lades and Delaney, 2020; OECD, 2019; Renaud and Zimmerman, 2018). A systematic review of applied behavioural science interventions to influence children's nutrition found that almost no studies analysed health equity implications (Chambers, Segal and Sassi, 2021). Interventions may affect different children differently and this could lead to unintended but systematic redistributive effects. For example, an intervention that aims to improve child nutrition without addressing equity issues in access may disadvantage those children who do not have access to high nutrition options or whose parents who cannot afford them. Similarly, an intervention encouraging uptake of a beneficial work experience opportunity may only be practically accessible to adolescents who can afford to take leave from paid work or relocate temporarily. Ensuring that projects do not unintentionally contribute to existing inequalities between children should be a key consideration for practitioners. For more on issues of fairness and equity in providing interventions to the entire population while still maintaining the rigour required during a randomized controlled trial, see Annex A.

Deliberate critical reflection within the project team

Many organizations have useful resources available for project teams when thinking through the goals, risks and impacts of a project.[11] When critically examining behavioural goals and interventions, there are useful strategies that can be employed within the project team. For example, potential project-specific harms and impacts can be anticipated, identified and addressed by a project team through the use of red teaming and pre-mortems.

'Red teaming' is a great method for ensuring ethical considerations are critically reflected upon throughout the project, or at key stages (Behavioural Insights Team, 2018). A 'red team' is a group of people who are given the task of taking on an outsider perspective and regularly critically evaluating the project. Red team members should be given the space to give honest critical feedback to the project team and should be guided to specifically focus on ethical considerations, and could provide another opportunity to involve children in the critique and decision-making within a project.

In a similar approach, Lades and Delaney (2020) recommend using a pre-mortem session. This is a session that takes place at the beginning of a project before anything has been implemented.

11 See, for example, the World Bank Environmental and Social Framework Resources and the United Nations Global Pulse Risks, Harms and Benefits Assessment Tool.

It involves project team members imagining that the project has failed and generating plausible reasons as to why. It is a method of identifying problems (in this case ethical ones) before they occur so that they can be prevented (Klein, 2007).

Identification of potential issues should not just occur at the outset of the project when setting the behavioural goals. The team should determine how they can keep track of problems or complaints that arise from the intervention, and specify what they will do in case they occur. Escalation procedures in case negative consequences arise should be established before an intervention is implemented. The criteria and timing of these escalation procedures and what will trigger them should be determined in advance.

External viewpoints help keep biases in check

Having checks and balances in place can be useful for ensuring that those in positions of power are held accountable for the decisions that they make about what goals to pursue and how to achieve them. Seeking external review is one method, and there are several ways to achieve this. Ethical review boards (also known as institutional review boards in research contexts) are the ideal form of external ethical review. When an applied behavioural science project involves a research component with children, practitioners should seek review from an ethics board. (See UNICEF Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis 2021 for criteria on when review by an external review board applies).

One reason that ethical review boards are useful is they require project teams to think through important ethical questions about their project. Thus, even if a project is not required to undergo a review by an ethics board, practitioners should still reflect on the key ethical principles discussed in this paper. External review is useful not only as a means to keep power in check, but also to help counter potential biases in decision-making within an applied behavioural science project. Applying applied behavioural science to governance is receiving growing attention in an attempt to counter biases in policymaking and improve government performance.

Practitioners are human too, which means that they are also subject to behavioural biases (Sunstein, 2015a). For example, policymakers might be biased towards policies that will have an impact in the short term, and away from potential issues arising in the long term (Lades and Delaney, 2020) or they may focus on only a small element of what might be a very complex challenge (Kahneman and Frederick, 2004). Other common biases found in the design and implementation of policies and programmes of work include: (a) confirmation bias – the tendency to seek out or interpret evidence in line with our existing views; (b) attention bias – attending to salient rather than urgent or important issues; and (c) optimism bias – a person's tendency to overestimate their abilities, the quality of their plans and the likelihood of future success (Behavioural Insights Team, 2018). Practitioners should be aware of their own biases and reflect on how these biases might be driving their decision-making. One step in acknowledging one's own biases is to recognize that external checks and balances are needed to ensure that ethical guidelines are being adhered to (Halpern, 2015; OECD, 2019).

The use of external advisory groups is another way for project teams to gather external viewpoints to inform a project. Involving local experts in this process can help ensure that the applied behavioural science project aims to achieve culturally appropriate goals. Ideally, external panels or teams would be composed of children or adults from diverse backgrounds and expertise to ensure that a wide range of views is incorporated. As with all projects impacting children's behaviour, not just applied

behavioural science projects, children should be involved in this process and empowered to hold up the mirror to project decision-makers.

Case study: A school-based intervention to encourage handwashing

Choices made when critically examining the goals and methods[12]

- The project team carefully considered whether and how they were exposing children to risks. In the design of the intervention, the project team considered the hierarchical relationship between the teacher and pupils and how this would play out. The project team did not want the teacher to reprimand students if they saw children failing to wash their hands.
- The project team identified that making the failure to wash hands seem disgusting may lead to bullying or teasing. The project team drew on what they had learned working on another project the year before and from the consultations with the children to design the posters in a way that would not reinforce this stigma.
- The intervention was designed to be as ready for scale as possible, to ensure that they did not expose anyone to unnecessary risk or waste anyone's time on a study that did not have the potential for high impact. This meant that the project only included nudges that were easy to replicate at schools. For example, soap was not provided, as the responsibility for the provision of soap rests with the schools, and not the Department of Education.
- The project team sought external feedback at several points during the project. For example, the project received ethical review and approval from an external ethics committee. The project also received research approval from the Philippines Department of Education. The Department of Education sought to ensure that the project was aligned with their child protection policy and at several points in time during the project assessed whether the project would pose any risk for the children involved.
- During implementation of the intervention, the evaluation not only measured the efficacy of the intervention but also monitored the potential risks and harms. Observers in the treatment group and control group classrooms not only recorded handwashing behaviour but also looked for negative responses by teachers or other students. In the post-intervention interviews, the project team sought feedback from teachers and children and asked about harm experienced.

12 For a description of the project see 'Case study: A school-based intervention to encourage handwashing' in 'Principle 1: Children and Involved in the decision making process'

Case study: A behaviourally-informed media campaign to encourage bike helmet use

About the project. In Thailand, traffic collisions kill more than 2,600 children each year and leave many more injured or disabled (Save the Children Thailand, 2015). While more than 1.3 million Thai children travel as passengers on motorcycles, only seven per cent of them wear helmets (Save the Children, 2020). To decrease motorcycle death and injury, Save the Children (2020) launched a nationwide campaign to encourage helmet use among Thai children.[13] The three-year project involved many different strategies to increase helmet use. These included education, advocacy and engagement, media and communications, and innovation and child participation, with behavioural insights intentionally woven throughout the project.

As part of a nationwide media campaign, the project developed a video entitled *Neglecting A Helmet = Neglecting Your Child* (Save the Children, 2019).[14] The video is targeted at parents and uses horror and 'shock factor' to draw attention to the dangers of allowing children to ride without helmets. The video depicts a mother who is mourning the loss of her young daughter and is claiming that it was she who killed her. Throughout the video, imagery and suspense is used to suggest that the mother murdered her child. In the end, she lets her daughter ride on the back of her father's motorbike without a helmet, and the motorbike proceeds to get hit by an oncoming car. Together with other media and outreach activities, more than 26 million viewers were reached (Save the Children, n.d.).

Choices made when critically examining potential unintended consequences of the behavioural intervention:

- The project team weighed up the harms and benefits. The important but sensitive nature of the issue meant that care was needed in the development of the video. Different strategies were discussed with regards to their potential effectiveness (benefits) and risk of harm. This included consideration about whether to use shock to draw attention, or to use humour.
- The intervention was carefully tailored to the local context. Ultimately, the humour version was determined to be potentially too controversial and the horror version was deemed appropriate in the Thai context, as the portrayal of scary or shocking images is an influential messaging strategy in Thailand.
- Checks and balances were sought from a wider stakeholder group. The Save the Children's Child Protection team and their Advocacy, Campaigns, Communication & Media team were involved in all of the conversations, and played an important role in understanding the potential impact of the message on children and parents.
- As part of risk analysis discussions, the project team drew on useful resources by working through the Save the Children safeguarding policy, in particular concerning the child actor who appeared in the video. Informed consent was received from the actors in the production including the child actor.

13 Save the Children's Work in Road Safety - The 7% Project YouTube https://youtu.be/Fhf4xkrp9ro

14 "Neglecting A Helmet = Neglecting Your Child" video https://youtu.be/awVfcB5xVns

PRINCIPLE 3: INTERVENTIONS ARE TRANSPARENT AND PROMOTE AUTONOMY

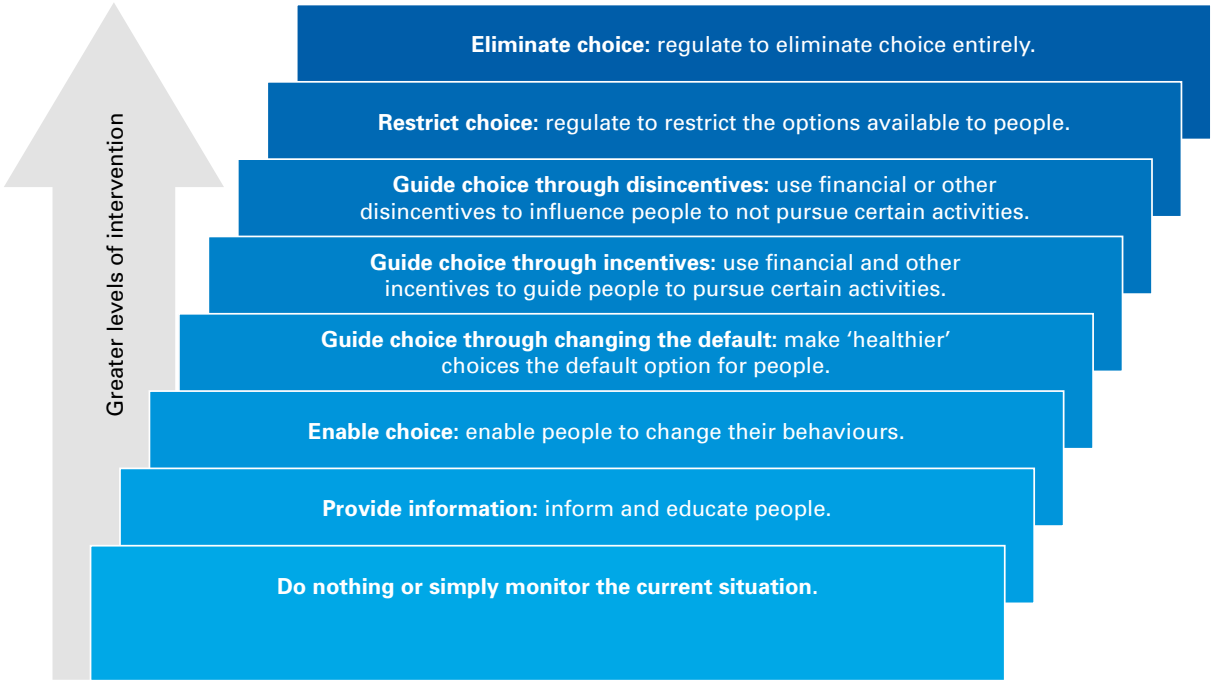
Summary of Principle 3

- A core idea underlying the applied behavioural science approach is that interventions should not restrict choice and should transparently communicate project goals.
- When implementing an applied behavioural science intervention, practitioners should have a thorough understanding of the mechanisms by which it works to influence behaviour and should determine how transparent it will be to those affected by it.
- If a recipient of an intervention wants to opt out or ignore the intervention, they should have the freedom to do so. Practitioners should design mechanisms for opting out such that it is as easy as possible for children and parents to access them.
- Applied behavioural science project goals and results should be open to public scrutiny. Practitioners should design feedback mechanisms so that children and their parents can voice concerns, see the outcomes of their objections, and hold decision-makers to account.

In the consultation workshops, children highlighted that for an applied behavioural science project to be ethical, good goals are not sufficient; the intervention also needs to achieve those goals through ethically acceptable means. When designing and implementing an applied behavioural science intervention, it is crucial to respect recipients' autonomy and to be transparent about the intervention and its outcomes.

A core idea underlying the applied behavioural science approach is that interventions should not restrict choice. Applied behavioural science interventions aren't designed to force or coerce people to behave in one way or another. On the Nuffield Council of Bioethics (2007) ladder of interventions (*see figure 2*), applied behavioural science interventions sit in the middle, predominantly enabling choice and guiding choice through changing the default, incentives and disincentives.

Figure 2: Nuffield Council on Bioethics' (2007) ladder of interventions



Source: Nuffield Council of Bioethics (2007)

Make the intervention easy to opt out of and transparent

By definition, applied behavioural science solutions do not restrict choice or eliminate choice. This is key to ensuring that people's freedom of choice and autonomy is respected (Lades and Delaney, 2020; Sunstein, 2015a). In theory, then, applied behavioural science interventions can be avoided. That is to say, if a recipient of an intervention wants to opt out or ignore the intervention, they have the freedom to do so. For example, changing the default on immunization appointments such that children and parents opt out of an appointment, rather than opt in, does not take choices away from people. In both options, people are free to opt out if they wish to do so (Halpern, 2015).

The children we consulted acknowledged the power that recipients of interventions can have in an applied behavioural science project when they are free to choose their own path:

"The [children] whose behaviour will be changed have more power; it is not a good thing [for the success of applied behavioural science] because they can decide [whether or not to] accept the change."
~ Ghana workshop

"If the student doesn't want to [change], the teacher can't do much."
~ Chile workshop

In practice, it may not always be easy for recipients to opt out (OECD, 2019). Opting out can be made easier or more difficult by practitioners. Consider, for example, how easy companies typically make it for people to sign up to their mailing list or join their membership programme, and how difficult they make it to leave. Thaler and Sunstein (2021) refer to such activities – frictions that make it harder for people to do what is best for them – as sludge. An example of sludge is making childcare support available to working parents, but making it unnecessarily difficult for eligible parents to apply for it. Practitioners must consider how easy it is in practice for children and those around them to choose a different path for themselves (Hallsworth and Kirkman, 2020; OECD, 2019; Sunstein and Reisch, 2019; Jachimowicz et al., 2017; Lades and Delaney, 2020; Thaler, 2015; Policy Horizons, 2017; Engelen, 2019; Renaud and Zimmerman, 2018; Pykett and Johnson, 2015). Practitioners should design mechanisms for opting out that are as easy as possible for children and influential adults to access. In designing these mechanisms, practitioners should reflect on how existing power imbalances contribute to the ease with which children can avoid an intervention. For example, if an applied behavioural science intervention is delivered as part of a school curriculum, children may not have complete agency in their decision to opt out.

A key requirement of being able to opt out of an intervention is that the recipient recognizes that they are receiving an intervention in the first place. In the example of defaulting parents into immunization appointments, parents can only opt out if they are made aware that they are being defaulted into the programme and are told how to opt out.

Transparency is a core ethical principle guiding applied behavioural science projects. For applied behavioural science projects that impact children, transparency includes ensuring that information is communicated to children in ways appropriate to their evolving capacities (Lansdown, 2005; Convention on the Rights of the Child, 1989). Children need to understand and be aware of their rights and channels for opting out, and the consequences of doing so. Children we consulted consistently emphasized the importance of transparency and how it links to autonomy. Participants felt that transparency is essential so that children retain agency and autonomy and are empowered to make decisions affecting their lives:

"The students should have been informed [about the applied behavioural science intervention] and they should have been given the opportunity to air their views."
~ Ghana workshop

"If they are unknowingly having their behaviour changed then they are probably not providing explicit consent and if they are being forced into it they feel like they have no choice in it."
~ Australia workshop

To facilitate choice, aim for informed consent

In child ethics literature – and research ethics literature more broadly – transparency is most often talked about in the process of informed consent (see Annex B; Graham et al., 2013). In line with children's right to participate in matters that affect them and the rights and responsibilities of parents to provide guidance (Convention on the Rights of the Child, 1989), when children are involved in research there is a need for transparent communication with children and their parents so that they can provide informed consent to participate. This includes communicating what participation involves, as well as any potential risks and harms.

So too with applied behavioural science projects, informed consent was prioritized by participants in our consultations in both their ranking of the ethical principles in the International Charter for Ethical Research Involving Children and the development of their own charter for ethical research:

"Since they are going to be the [target group], they will be fully informed and participating… people are not going to be forced, but they will be shown how a change can be generated and for that they must give their consent."
~ Chile workshop

A key part of informed consent is ensuring that practitioners communicate with children in a manner that is appropriate to their age, competencies and environmental context (Graham et al., 2013). Children we consulted also highlighted the importance of ensuring participants truly understand what they are consenting to:

"More than seeking their consent, we seek to make them understand the process."
~ Chile workshop

Practitioners should also be aware of additional pitfalls that could degrade the authenticity of gaining informed consent, despite their best efforts to communicate transparently. While most parents act in the best interest of their children, there are exceptions. For example, payments and incentives might induce families to take part in a way that threatens a child's freely given consent. There may also be power dynamics between the child and their parent or their community, such as expectations of obedience and respect toward adults, which undermine transparent processes of gaining consent (Ahsan, 2009). Because of these factors, practitioners should uphold the rights and respect a child's autonomy by obtaining consent transparently and directly from the children participating in the applied behavioural science project, if they can provide consent, but also obtain consent from parents. If the child is too young to formally consent, then, even with parental consent, practitioners must consider the potential short-and long-term harms and benefits to the child.

Situations where informed consent is not possible or consent is presumed

There will be situations where people may not be able to opt out of an intervention. Take, for example, a mass media campaign that aims to encourage parents to put bike helmets on their children. Few if any parents will have signed a consent form saying they are happy to view the campaign, and they may not be able to avoid seeing the TV ad or the poster on the street. However, their autonomy is arguably still respected because they can clearly identify the goals of the ad and can choose to disregard the message and not use helmets when they next get on their bike.

There are often circumstances where changes are implemented as part of quality improvement processes and the only data being used are data that are already being collected for such purposes. This is often the case in policy or service design contexts. In such cases, the relevant ethical guidelines may state that consent is presumed and that a formal ethical review is not required (National Health and Medical Research Council, 2014). For instance, the UNICEF Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis 2021 states that informed consent is not required when data is collected for the explicit purposes of provision of services. Some in the applied behavioural science ethics literature also argue that direct disclosure to participants about an intervention may be counterproductive (Bovens, 2009). There is a concern that telling people upfront about an intervention may reduce its effectiveness; there is recent evidence, however, to suggest this may not always be the case (Loewenstein et al., 2015; Bruns et al., 2018).

Take the example of a project that aims to encourage hand washing at school by placing footprints on the ground leading people from toilets to handwashing stations, with arrows pointing towards soap dispensers (IDinsight, and UNICEF, 2020). Practitioners could place a sign up that informs children that the particular design has been chosen to encourage them to wash their hands. Or, for a text message intervention, practitioners could start the message with: "the sentence below is designed to get you to use the content" (Bovens, 2009). However, this could be a distraction or cause confusion and therefore reduce the efficacy of the intervention itself (Halpern 2015; Hallsworth and Kirkman, 2020).

Bovens (2009) suggests that a weaker transparency requirement might often suffice in place of direct disclosure: that is to say, a perceptive observer should be able to identify a behaviour change intervention and its intention. For example, an observant person could see that the handwashing stations have been set up in a certain way and could express concerns if they had them. When making this evaluation, practitioners need to consider the ages and capacities of the children being influenced, and whether children in the target group could reasonably be expected to identify the intervention.

Interventions that influence children's behaviour through automatic non-conscious (System 1) thinking may also raise issues around transparency. One cannot assume knowledge of or consent for the intervention if the intervention acts below the threshold of awareness. It will also be harder to resist an intervention that relies on System 1 thinking. These interventions are therefore at greater risk of being manipulative. This was echoed by the children we consulted:

"The approach [to consent in applied behavioural science] should be conscious because if it is unconscious it can lead to problems."
~ Chile workshop

Design interventions that encourage greater reflective thinking or active choice

Interventions that rely on people's deliberative, conscious System 2 thinking are likely to be more readily transparent. However, this won't always be the case – transparency doesn't map perfectly onto whether an intervention involves one type of thinking or another (Hallsworth & Kirkman, 2020). For instance, an intervention might be transparent in that recipients might reasonably be expected to identify what it is intended to achieve and how it works, but it may still influence behaviour in ways outside of conscious control (for example, playing relaxing music in airports to encourage people to stay calm; Hansen and Jespersen, 2013). Alternatively, it could involve decision-making that is in conscious control but where the intention and means of the intervention are not transparent, for example, an intervention that frames risk information in a way that aims to encourage parents to make a particular medical decision. Choosing a medical treatment requires System 2 (or conscious) thinking, but parents may not readily be aware that they are being influenced by the framing, or *how* they are being influenced (Hansen and Jespersen, 2013).

When implementing an applied behavioural science intervention, practitioners should have a thorough understanding of the mechanisms by which it works to influence behaviour and should determine how transparent (in practice) it will be to those affected by it. The literature has not specifically discussed these strategies as they relate to children and more thought is needed to identify how they could be applied, particularly to interventions that impact children who have not developed capacities to engage in System 2 thinking. In these circumstances, parents and child

advocates are likely to play an important role in helping to identify potential risks of manipulation. External checks and balances will also be even more important in these situations.

Recent discussions in the applied behavioural science literature have focused on strategies to encourage greater reflective (or System 2) thinking within interventions. There is the hope that encouraging people to reflect on their behaviour will enhance their autonomy and will lead to longer-lasting, persistent behaviour change (Banerjee and John, 2021). One such strategy has been coined 'nudge plus' (John and Stoker, 2019), which involves adding reflective components to nudges, either by blending them in with a nudge or adding them alongside; for example, one could apply a default but provide information about why the default is being implemented and encourage people to reflect on whether it is the right choice for them (Banerjee and John, 2021). An example of a blended nudge plus is the commitment device, a common applied behavioural science technique. Asking people to pre-commit to a goal encourages behaviour change through a psychological mechanism; people will not want to go back on a promise, especially if they have made that promise publicly. But committing requires reflection, which makes it more readily transparent than, for example, defaults (John and Stoker, 2019).

An alternative to defaults that is more transparent is 'active choice'. Take, for example, an intervention that requires parents to make an active choice about whether their child will receive a scheduled immunization. That is, they are required to decide to either sign up to receive the vaccine or choose to decline it; there is no default option. This kind of intervention respects people's autonomy to make the choice that is best for them. However, it requires that the recipient has the mental bandwidth to weigh up the pros and cons of such a decision and choose the appropriate outcome for their situation. People whose mental bandwidth is currently limited (for instance because they are under financial stress) may not be able to adequately process such a decision. In this case, those experiencing poverty may be disproportionately harmed by the intervention (Mullainathan and Shafir, 2013).

Make feedback channels readily available and take objections seriously

The OECD (2019) guidelines state that for any policy intervention that is not readily transparent or that targets people's non-conscious decision-making, a clear and open complaints procedure should be made available to people, and objections taken seriously. Encouraging feedback comes with a responsibility to monitor concerns and take action when needed. For example, practitioners may abandon trials when recipients of an intervention have made genuine complaints, even when the number of complaints is small (Halpern, 2015).

There are many reasons why children may not make a complaint. Children may not know the feedback channel is available to them or how to access it. Practitioners may need to proactively seek feedback on a project through schools or other institutions where children spend their days, or they may need to proactively promote the goals of a project through a local newspaper or school newsletter, for example. Given the inherent power imbalances facing children, these routes to complain need to allow children to object without fear of retribution, for example, by allowing them to remain anonymous. It may involve providing ways for children to report concerns directly to practitioners through channels that children may use outside of their relationships with adults, such as SMS or social media.

Transparent communication and feedback mechanisms should also be appropriate to the children's age, competencies and environmental context. Behavioural science principles that make a process as frictionless and user-friendly as possible should be applied not only to the design of the intervention itself, but also within the complaints and feedback processes. The feedback mechanisms should be designed to enable children and their parents to voice concerns, see the outcomes of their objections, and hold decision-makers to account.

Publicly communicate the goals and results of applied behavioural science projects

Some ethical applied behavioural science frameworks state that practitioners (particularly governments) should make decisions in line with Rawls' publicity principle – that any decision would stand up to public scrutiny *if* it became public (Thaler and Sunstein, 2008). However, others suggest that this is too weak a requirement (Hallsworth and Kirkman, 2020; Hansen and Jespersen, 2013). A stronger requirement is that all applied behavioural science projects must be openly communicated to the public (Lades and Delaney, 2020; OECD, 2019). Being transparent with the public means that applied behavioural science projects are open to public scrutiny and practitioners can be held to account.

Hallsworth and Kirkman (2020) raise the point that decisions need to be made about what being made public means in practice. For UNICEF, this may mean publishing on the UNICEF website or through widely disseminated UNICEF reports. Transparent communication with the public also means addressing children and doing so in an appropriate manner such that they can form their own judgement about the project.

Publicly reporting on project results – and any unintended consequences –means that other applied behavioural science practitioners can learn from this knowledge (OECD, 2019; Efendic et al., 2015). Sharing what has worked – and what hasn't – validates the time that participants have invested in a project. It also ensures that future projects do not waste participants' time by implementing interventions that have a low chance of success.

Case study: A school-based intervention to encourage handwashing

Choices made in balancing autonomy and robust evaluation[15]

- The goals of the nudges (painted footpath, rotating posters, arrow stickers) used in the intervention were transparent, as it was clear to the children that they were encouraging and reminding them to wash their hands after going to the toilet. Children had a harder time articulating the goal of the 'watching eyes' nudge.

- As part of the ethical clearance for the evaluation, it was deemed acceptable that the observers would not inform the children and teachers about the exact purpose of their visit. This decision was made to minimize any conflation between the intervention and the presence of the observer in the classroom.

15 For a description of the project see 'Case study: A school-based intervention to encourage handwashing' in 'Principle 1: Children and Involved in the decision making process'

- After the evaluation, the project team communicated the purpose of the observer visits and the results of the evaluation back to the division offices so that these results could be circulated to the teachers and principals involved.
- Principals were told that it was in relation to the broader WASH programme. The Division Superintendent understood the exact purpose of the evaluation and through a memorandum of understanding endorsed the school visits by the observers.
- Students and teachers who had participated in the intervention were interviewed after the observations and data collection was complete. In the interviews students and teachers were asked how they felt about the nudges and were asked to provide feedback
- The children could not opt out of viewing the nudges, but they could opt out of acting on them. The feedback received from students was that the nudges were acceptable because the nudges were not forcing them to wash their hands, and if they did not want to wash their hands they could choose not to do so.
- The results of the project were disseminated widely not only to those who were involved in the intervention but also to the broader behavioural science and WASH community.
- The project was included as a case study in a best practice UNICEF report; it was written up as a policy paper that was shared with the Department of Education and the Department of Health; the results were presented by the Department of Education at a handwashing conference and the project was published in peer-reviewed scientific journals.

Case study: Designing a text message trial for parents living in refugee camps

About the project. In partnership with the International Rescue Committee (IRC), the Behavioural Insights Team developed an applied behavioural science intervention for Syrian parents of preschool-aged children living in displacement in Lebanon and Jordan (Wilton et al., 2017). The project sought to determine how to increase parental engagement with evidence-based content that empowers parents to turn everyday moments into 'brain building' moments for their children.

The content was modelled off a mobile app, *Vroom*, which had originally been developed for use by low-income parents in the United States. Vroom provides daily tips to parents on how to engage with their children in developmentally appropriate ways. A randomized controlled trial (RCT; see also Annex A) was used to evaluate the effectiveness of two different versions of text messages that prompted parents to access the content. For this intervention BIT and the IRC used a text messaging programme and hyperlink trackers with links to YouTube videos that IRC had created.

A series of eight text messages were sent to 12,000 Syrian parents living in refugee camps. Half of the participants were randomly allocated to receive messages that emphasized the developmental benefits of the content to the child, and half were allocated to receive messages that highlighted the enjoyable nature of the activities for parents themselves. The trial revealed that messages highlighting the developmental benefits of the activities were more effective at fostering engagement than those that highlighted the benefits to the parent.

Choices made in seeking to design an intervention that is transparent and promotes autonomy

- This project was one of the first randomized controlled trials of its kind with this population, so designing and implementing the trial required careful ethical consideration. Because refugees are generally considered to be a vulnerable population, careful consideration was given to consent and withdrawal procedures.
- Participants were parents who were already enrolled in an IRC programme and had previously consented to provide their phone numbers to IRC. After thorough consultation with local IRC staff in Lebanon and Jordan, a consensus was reached that the text messages and corresponding tips had sufficient potential to be beneficial and were at low risk of causing harm. The decision was therefore made to trial them using an opt-out procedure.
- All participants received an initial text introducing the campaign, linking them to more information, and explicitly telling them how they could opt out from the messages at any time.
- Participants were informed about the project in accessible language. BIT and the IRC took care to write the messages in conversational Arabic, with particular attention to Syrian dialects (rather than, for example, Jordanian, Lebanese or formal Arabic dialects).
- Parents (fathers and mothers) in multiple camps were asked about their reactions to the videos and text message content, as well as whether they would want to receive this type of content.
- At one point in the trial, two-way text messaging was activated, which allowed parents to respond, with most messages in response offering thanks and/or asking for additional resources or aid. These requests were forwarded to local IRC staff. All parents were offered the opportunity to complete a survey at the end of the intervention period.
- The lessons from the project were written up in Wilton et al. (2017) '[Parenting in Displacement: Adapting Vroom for displaced Syrian families]' and publicly disseminated online by the International Rescue Committee and Behavioural Insight Team.

CONCLUSION

After reviewing the applied behavioural science ethics literature and the child ethics literature, consulting with children, and interviewing subject matter experts and practitioners, we distilled this guidance into three core ethical principles:

1. Children are involved in the decision-making process
2. Behavioural goals and interventions are critically examined
3. Interventions are transparent and promote autonomy

These ethical principles are necessary, but not sufficient, for conducting an ethical applied behavioural science project. Other ethical principles and frameworks are likely to apply in different stages of the project. For example, ethical guidance for consulting with children (such as the ERIC compendium and UNICEF Procedure for Ethical Standards in Research, Evaluation, Data Collection and Analysis 2021) should be followed when children are involved in research activities. The three principles outlined in this discussion paper provide additional guidance specific to applying the behavioural science approach with children.

The applied behavioural science approach is increasingly being used within UNICEF and across the United Nations, as evidenced by the recent release of the Secretary-General's Guidance on Behavioural Science. This comes alongside a growing recognition that for the United Nations to achieve its Sustainable Development Goals and have the most positive impact on communities and society, its work must be people-centred and grounded in evidence. For UNICEF, the applied behavioural science approach with children provides a wealth of new opportunities; indeed, the Guidance points out applied behavioural science opportunities in areas that are inherently linked to childhood outcomes, such as "taking medicine, allowing a child to attend school, halting violence, reducing stigma".

Opportunity areas to ethically apply behavioural science in projects focused on children

One of the greatest opportunities for UNICEF is to draw on what has worked elsewhere – with children in other parts of the world and with adults in similar contexts – and translating it to the local context. Behavioural science principles have been applied effectively to encourage healthy behaviours, reduce gender inequalities, encourage sustainable consumption patterns, reduce bullying and improve access to education. However, given that the behavioural sciences literature is biased towards WEIRD (Western, Educated, Industrialized, Rich and Democratic) samples, a key mission for UNICEF could be to ensure the safe and ethical application of these insights to other contexts. One way for organizations such as UNICEF to better achieve this would be to set up internal mechanisms such as internal guidance and internal ethics committees to help practitioners think through these issues.

For practitioners to evaluate whether an applied behavioural science intervention promotes autonomy and is sufficiently transparent to the children it impacts, and to identify potential pitfalls and backfire effects, practitioners need to have a sound understanding of the behavioural science mechanisms at play. There are already useful resources available within the United Nations agencies to support practitioners in applying behavioural science effectively, for example, UNICEF's Communications for Development (C4D) function and the Behavioural Sciences Group in the United Nations Innovation Network. These resources should be made more readily accessible for practitioners in UNICEF country offices.

When exploring opportunities to ethically apply behavioural science, much can be gained from revisiting projects and processes that are already in place. An area of growing interest amongst United Nations agencies (and behavioural scientists; Sunstein, 2021) is how to reduce unnecessary frictions and how to optimize processes that are failing to provide maximum benefit to the end-user. The United Nations Behavioural Science Report 2021 defines sludge as "frictions that make it harder for people to achieve their desired outcomes. Common examples include complicated forms, opaque organizational processes or long waiting times." A practical way to do this is for country offices to conduct a 'sludge audit' of existing initiatives, an approach that is already being trialled in the United Nations Development Coordination Office.

Immediate next steps: Supporting practitioners to ethically apply behavioural science

As the first paper of its kind to bring the two fields of child ethics and applied behavioural science ethics together, we view this discussion paper as the beginning of an ongoing discussion about how to place children at the forefront of the applied behavioural science projects that impact them.

The principles in this discussion paper have been developed into a decision tree – a practical tool for practitioners. This decision tree provides a simple framework that practitioners can use to help them think through how to apply these principles in practice. The decision tree is a guide only, and is not a substitute for a formal ethical review. Instead, this tree aims to guide practitioners through key ethical decision points during their project and help them to identify when other perspectives are needed. In doing so, this discussion paper and the associated decision tree aims to support the already skilled and effective UNICEF staff and the staff of international organizations and NGOs to apply behavioural science in their work with children.

ANNEX A. THE ETHICS OF RANDOMIZED CONTROLLED TRIALS WITH CHILDREN

An important component of an applied behavioural science project is testing what works before implementing and scaling up a solution. Because randomized controlled trials (RCTs) are often considered the gold standard of evaluation, they are used to test the effectiveness of many applied behavioural science solutions (DellaVigna and Linos, 2020; Haynes et al., 2012). RCTs are not unique to an applied behavioural science approach, and ethical guidance already exists for their use, including with vulnerable populations (Glennerster and Powers, 2014). However, because of the prevalence of RCTs in the applied behavioural science approach, this annex outlines ethical considerations in the context of applied behavioural science projects.

Consideration should be given to how different trial groups are chosen and treated. When it comes to RCTs involving children, the ERIC project emphasizes that each child should have an equal chance of being selected in all conditions. Random allocation to treatment groups is important; allocation should not be based on any systematic characteristics (Graham et al., 2013). When conducting RCTs, careful thought should be given not only to the intervention group but also to the control group. Children who have been allocated to the control group should be given the current best treatment. Moreover, the control group should be placed on a waitlist to receive the intervention post-trial, if it produces favourable outcomes (Graham et al., 2013).

Challenges arise, however, when an intervention can't be given to the control group feasibly, or without losing some of its effectiveness. Consider the example of a teaching intervention that is trialled with students in Grade 3. At the end of the trial, the intervention was found to improve learning outcomes. The waitlist control group is therefore offered it the next year. However, it turns out the intervention is not as effective when delivered in Grade 4. Practitioners should think through the potential consequences for the control group as well as the intervention group.

In applied behavioural science projects, the testing of solutions is ideally conducted in the real-world context in which the behaviour occurs. What this means is that RCTs are often conducted amongst people receiving existing programmes and services. In these situations, practitioners should think through the level of transparency that is needed, and in particular, whether informed consent is required. For instance, when the UK government implemented a tax-free childcare programme in 2016, they planned to send a letter to eligible parents informing them about the programme. Given that a letter was already going to be sent, a behaviourally informed letter was designed and tested to see if it could boost application rates. A letter that included a checklist of items needed to complete the online application form was found to be most effective, increasing the number of parents who completed the application form by 13.2 per cent compared to the standard letter (Behavioural Insights Team, 2019). In this situation, eligible parents were always going to receive a letter from the government. The trial simply meant that some people received a letter with this additional checklist.

In cases like this where changes are implemented and evaluated as a part of continual service improvement, consent is often presumed and formal ethical review is not required (National Health and Medical Research Council, 2014). In this case, people were not provided with the means to opt out because there were no further activities to opt out of (the single letter was the intervention). In other situations, people may be given the option to opt out, as shown in an example from a collaboration between Nesta, BIT and the EdTech company HegartyMaths (Nesta et al., 2020). HegartyMaths is an online maths teaching platform targeted at teachers and students. One of its features, called MemRi, promotes retrieval practice to help students remember concepts they have previously learnt – but

most classes weren't making use of it (often because teachers were not aware it existed). In a test of the applied behavioural science principle of defaults, HegartyMaths turned the feature on by default (but allowed teachers to opt out) and found that more students set MemRi goals and completed the quizzes (Nesta et al., 2020). In this situation, teachers were not asked to provide opt-in consent but were instead free to opt out of using the feature.

Before practitioners set out to conduct a randomized controlled trial, thought should be given as to whether an RCT is necessary in the first place, and whether it would be possible to get the information (or enough information) in another way. The OECD (2019) ethical guidelines state that practitioners should justify why an experiment is needed. When making this judgement, it is important to consider whether the benefits outweigh the risks. As highlighted in ERIC for research with children and young people, practitioners need to consider not only the benefits for the children participating but also the benefits for children in general (Graham et al., 2013). Particular care should be taken when considering working with vulnerable groups where power differentials are greater and the risk of harm may be higher.

ANNEX B. KEY ETHICAL PRINCIPLES UNDERPINNING RESEARCH WITH CHILDREN

From Graham et al., 2013

Respect: "Respectful research is situated in the lives of children and founded on the assumption that children's experiences and perspectives will be, and should be, taken into account" (Graham et al., 2013, p. 15). It must recognize the dignity of children, and value children in the context of their lives, including in relation to their families, communities and cultural context. Research must take into account the power dynamics between children and their families and communities. It must also consider the impacts on children, both those directly involved in research, and those who are not participants but may benefit from it.

Benefit: Researchers must ensure that they **do not harm or injure children** in the course of their research through acts of commission and/or omission. "Research should be methodologically and ethically sound, rigorous, relevant and likely to have impact" (Graham et al., 2013, p. 16). Research must seek to **promote and improve the status, rights and/or wellbeing of children**. To this end, the research process and outcomes should include benefits for children. This could include ensuring that children feel heard or have their experiences validated in the process, to them receiving tangible benefits as a result of their participation.

Justice: Researchers must be aware of the power differences between themselves and children, and ensure that they listen and give due weight to children's views. Research should not be overly burdensome for children, children should be treated fairly and benefits should be distributed equitably. Children should be selected for participation based on a stated research purpose and not influenced by discrimination.

Harms and benefits

Anyone planning to undertake research involving children must first establish a clear rationale for why children are being involved. Researchers should consider: a) whether the desired knowledge or data can be acquired through other means, and b) whether the researchers involved have the competence, experience and resources required to undertake research involving children.

When conducting ethical research with children, researchers must uphold the principle of non-maleficence (doing no harm) by critically reflecting on the potential harms that participation in the research could expose children to. These potential harms need to be considered alongside any harm that could occur to children if the research was not conducted. This process is not straightforward, as different cultural norms and expectations on children may influence a researcher's view on what is harmful to a child in a given context. Researchers have an obligation to consult locally when planning and developing research protocols to understand the context and ensure no harm is done to children participating in the research, as well as to their families or communities. It is also important to consider whether any children excluded from the research are at risk of harm as a result.

When participating in research, there is a chance that children may disclose experiences of harm, such as abuse or neglect, that they are suffering in their life. There may also be an unintentional risk of harm to children from incompetent or abusive researchers or other people involved in the project. To mitigate the risks and respond to any disclosures of harm, researchers must have adequate child protection supports in place. If appropriate support cannot be given to children disclosing

experiences of harm, then the researchers should reconsider the appropriateness of the research. Doing no harm is an ongoing process requiring continual reflection at every stage of a project and extends beyond the completion of data collection. Researchers must ensure that the dissemination of research findings does not pose any risk of harm to the children involved, or to their families or communities.

In addition to doing no harm, ethical research involving children should uphold the principle of beneficence by maximizing the possible benefits to children. In some instances, children won't benefit personally from their participation, but other children will. Researchers should always look to maximize the possible benefits to children so that they feel a sense of reciprocity and respect. A potential benefit to children could be simply enjoying the experience of participating or a more substantial monetary incentive (discussed in more detail below). Key questions include:

- Is the children's participation in the research necessary, or can the information and knowledge be obtained in other ways?
- Do you have the necessary skills (technical and interpersonal) and contextual understanding to involve children in research?
- Are there any identifiable risks to children now and/or if the findings from the research were to be made public? What measures do you have in place to mitigate those risks?
- What actions will you take to respond appropriately if a child discloses harm or abuse or becomes distressed?
- How can you maximize the benefits to children participating in the research?

Informed consent

All people, including children, have a right to participate in matters which affect them. This is particularly pertinent in research contexts where it is critical that all participants are given the opportunity to consent to their involvement in an informed way. Obtaining adequate informed consent is achieved when the following four conditions are met (Gallagher, 2009):

- An explicit act such as a verbal or written agreement has been made
- Participants are informed about and understand the research and what is required of them
- Consent is given voluntarily without coercion
- Consent remains negotiable and the participant is able to withdraw their consent at any time

The Convention on the Rights of the Child (1989) outlines specific rights relating to applying informed consent to activities involving children: that children have a right to give their opinion about matters that affect them (Article 12), that children have a right to be informed of their rights (Article 42), and children have a right to receive appropriate information to help them understand activities that impact them (Article 5).

Researchers can uphold these rights and respect a child's autonomy by obtaining consent directly from the children participating in the research. For children to give their informed consent, they must be provided with information about what is required of them if they choose to participate, including any potential risks and harms, in a manner that is appropriate to their age, competencies and environmental context. When seeking informed consent from a child directly it is also necessary to consider any power dynamics which might be at play between the child and their parent or carer, to determine whether the consent has been given by a child freely without coercion (Ahsan, 2009). Researchers must make it clear to children that their informed consent is not a 'one off' agreement, but is ongoing throughout a project. Children should be able to negotiate their consent and withdraw it at any stage during or after the research. Crucially, researchers must be aware of visual and non-verbal signs of dissent that children may exhibit when they are experiencing discomfort (Ahsan, 2009). There may also be cultural factors that make it difficult for children to decline to participate or to withdraw from a project; expectations of obedience and respect toward adults, for example, need to be considered and mitigated by those undertaking the research (Bogolub and Thomas, 2005).

Some factors can prohibit a child from providing their informed consent to participate in research. These may include varying legal requirements regarding the age of consent as well as cultural norms and expectations around the capacity of children to make these decisions or participate in research at all (Hood, Kelley, and Mayall, 1996). In this case, it may be necessary to obtain informed consent from a parent or community leader. This may depend on the age of the children. It is critically important to understand the local context to ascertain whose informed consent needs to be obtained, and to design research protocols accordingly. Researchers will need to consider whether benefits or incentives available to parents could put children at risk of coercive participation.

There are some exceptional circumstances where obtaining parental consent may not be possible, for example, when children are unaccompanied or orphaned due to humanitarian emergencies. Children in these situations are even more vulnerable and, for this reason, participation in research should be carefully considered and only undertaken if it is in the best interests of the individual child. Domestic laws should be consulted to see where the responsibility for the child falls in these circumstances; if 'parental' permission is the responsibility of state agencies, then it would be their consent that would need to be obtained, but then again only if research participation was deemed in the best interests of the child (Graham et al., 2013).

Key questions include:

- How will you ensure that a child understands what consent means?
- How will you communicate the necessary information about the research to the child in an age-appropriate way which respects their competencies and cultural context?
- How will you support children to understand and weigh up any risks?
- Which adults, if any, in the child's family or community do you need to consult and gain consent from?
- What procedures will you put in place to ensure that children are not coerced to participate?
- How will you ensure that children are able to express their dissent and withdraw from the research at any point without any negative consequences?

Privacy and confidentiality

The right of children to privacy is a basic human right, articulated for children in Article 16 of the Convention on the Rights of the Child. The core tenet of this principle is respecting the wishes of children who participate in research and who prefer their involvement, identity or their data to remain confidential. When planning and conducting research with children, privacy and confidentiality considerations raise many practical implications that apply differently depending on the phase of research. For instance:

- **During data collection** – when consulting with children, respect should be given with regard to how much information the child wants to reveal or share, and with whom.
- **When disseminating findings** – when publishing and disseminating research findings, the identity of the children who participated should remain confidential.
- **When storing data** – when collecting, storing or transporting data, the confidentiality of research participants must remain secure. Where possible, data should be kept separate from unique identifiers, such as a child's name or address.

Ensuring children retain agency in managing their right to privacy raises several ethical issues. First of all, researchers must ensure children have an adequate understanding of what type of information could be revealed and what the likely implications might be. Secondly, there may be power disparities between adults and children that raise challenges surrounding privacy. Adults may not recognize the legitimacy of a child's right to privacy, or a child's privacy preferences might be considered subordinate to those of an adult. When other individuals are involved in research activities, researchers have an obligation to ensure that all data collected is safeguarded, even from parties associated with the children such as parents, staff, interpreters, translators, drivers and 'cultural brokers'. Special measures might need to be implemented to ensure children being interviewed are not overheard, and that children completing written tasks are not seen by others.

Key questions include:

- How will children's privacy and confidentiality be respected?
- How will you attend to concerns about children's safety that arise during the research?
- How will you ensure that research findings are disseminated safely?
- How will you ensure data is safely stored and destroyed?
- Are there additional strategies that would enhance research staff's capacity to respect children's privacy and confidentiality?

Payment and compensation

Guiding this principle are considerations around justice, benefit and respect for research participants to be adequately acknowledged and compensated for their contribution. The ERIC compendium recognizes four modes of payment in research:

- **Reimbursement payments –** to compensate children for any *direct* expenses incurred due to participation. These might include food, transport or accommodation.
- **Compensation payments –** for time, work, effort or any *indirect* cost caused by participation. This might include loss of income.
- **Appreciation payments –** to acknowledge the participation of children and express gratitude for their contribution. Participants are generally unaware of such payments prior to the research.
- **Incentive payments –** to encourage children to participate in a research project. These payments are typically promoted in some way prior to participation in the research.

A range of challenges may arise as a result of payments or compensations being made to children. For instance, researchers may want to consider at what stage it is appropriate that they inform children of the nature of compensation. It may be advisable to withhold disclosing this information until data collection has been completed, in order to avoid pressure being placed on children and families to participate in a way that compromises their true consent. However, this concern must be counterbalanced with any potential negative impact to the research project if participant recruitment suffers as a result of incentives not being promoted. Researchers must also ensure they adequately understand the cultural and social context, in order to make well-considered decisions around payment modes or methods. Local consultation beforehand is always recommended, as it allows for transparency and accountability of the research process in the wider community. For instance, if children are unable to participate in other productive activities that would have generated money for their family, compensation may be necessary.

To mitigate the risks discussed above, researchers should always consider ahead of time how payments may directly or indirectly raise unrealistic expectations or cause disappointment for children or their families, or otherwise influence the research project and its impact on participants and their communities (Graham et al., 2013). One way to avoid the pitfalls of providing payments to individual children is to instead provide payment to groups such as schools or community groups for the benefit of the children and their wider community.

Key questions include:

- How will children's participation be recognized and supported financially or otherwise?
- How will you ensure that children's participation will not conflict with other responsibilities they may have that relate to their family's economic well-being?
- What form will any payment take (for example, money, food, gifts, educational materials) and who will receive the payment – the child, parents, community?
- How and when will information on payment be disclosed? Will it be disclosed in the consent process, or after children have agreed to participate, or at the end of the research?

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GLOSSARY

Applied behavioural science (sometimes referred to as **behavioural insights**): The application of findings about human behaviour from the inter-related fields of behavioural economics, cognitive and social psychology, and social anthropology to real-world problems.

Dual-process model: The dual-process model of cognition purports that humans engage in two types of thinking: one 'fast' (System 1) and one 'slow' (System 2).

Ethical review boards (ERBs) or institutional review boards (IRBs): Also known as ethics review committees, ERBs/IRBs are formal ethics committees established by an institution or organization to review the ethical acceptability of research involving humans. IRBs attempt to ensure the protection of participants by reviewing research proposals and related materials.

Frictions: Small details that make a task more challenging or effortful. Often referred to as 'friction costs' or 'hassle factors', they can make the difference between doing something and putting it off.

Nudge: There is disagreement over exactly what constitutes a nudge but it is often used to refer to a behaviourally-informed intervention that involves changing a person's environment to steer them towards a particular behaviour, without taking choices away or significantly changing economic incentives.

Pre-mortem: A session that takes place before a project or intervention has been implemented. It involves project team members imagining that the project has failed and generating plausible reasons as to why. It is a method of identifying problems (in this case ethical ones) before they occur, so that they can be prevented.

Red team: A group of people who are given the task of taking on an outsider perspective and regularly critically evaluating the project. Red team members should be given the space to give honest critical feedback to the project team and should be guided to specifically focus on ethical considerations.

Research: At UNICEF, research is the systematic process of collecting and analysing data and information in order to generate new knowledge, answer a specific question, or test a hypothesis. Research at UNICEF should examine relevant issues and yield evidence for better programme and policy advice. Ethical guidance can be found in the *UNICEF Procedure on Ethical Standards in Research, Evaluation, Data Collection and Analysis 2021* as well as the *Ethical Research Involving Children (ERIC) Compendium*.

Salient: In the context of an applied behavioural science, making a behaviour or a component of an intervention 'salient' is to make it more relevant and attention-grabbing, usually through the use of colour, formatting, personalization or imagery.

Sludge: Frictions that make it harder for people to follow through on their intentions.

Sludge audit: The process of reviewing existing initiatives and processes to identify where sludge exists.

System 1 (or 'fast') thinking: The fast kind of thinking is automatic, effortless and non-conscious, and happens without people even realizing. System 1 thinking is guided by mental shortcuts or rules of thumb, known as biases and heuristics. This thinking is also heavily influenced by cues in the environment or the way choices are presented.

System 2 (or 'slow') thinking: The slow kind of thinking is deliberative and requires careful conscious thought. For this reason, it is cognitively effortful and takes time.

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