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# Generalizing with equity: the Busara research agenda on contextualisation and cross-cultural measurement in the Global South

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# Abstract

The events of recent years have made especially plain the inequities between Global North and South. One such inequality is in the way some social groups are often missing from the data, so that knowledge, policies, services and products do not take proper account of them. This bias exists strongly in the conceptual development of the behavioral sciences, and it makes the research base fragile, with papers making claims of universality that do not stand up to scrutiny. In order to deal with concerns about replication, external validity and the strength of this research base, there are now many initiatives to improve experimentation in the social sciences. However, truly generalizable findings come about when institutions are present in the long term to aggregate across studies. That works even better when those institutions have a deep understanding of the contexts in which they seek to generalise from and to. Busara was founded as an institution to apply context-specific behavioral science literature, and this work has been a constant throughout our history. We now propose to launch a structured three-year Open Science investigation of the gaps in the understanding of canonical patterns of behavior, cognitive processes, preferences, beliefs, and decision-making processes in the Global South, comparing our work in multiple contexts and exploring variance across time, place, and demography. At the conclusion of this project, we will begin integrating our findings into wider theories of global cultural, psychological and microeconomic heterogeneity.

**JEL Codes:** A13; C90; D91

**Key Words:** replication, generalization, cross-cultural measurement, theory, behavioral science

# Global debate

When populations are systematically excluded from research, our knowledge is diminished, policy outcomes are worse, and justice is not done (Criado-Perez, 2019). The world has grappled in recent years with reckonings on racial and gender inequities. Many of those have been made even more stark during the pandemic (Zelner et al, 2021; Porter et al, 2021a; Porter et al, 2021b; Le & Nguyen, 2021). The gaps in resources between Global North and Global South have once again been exposed, and in some cases exacerbated (Oldekop et al, 2020).

## Our agenda

Busara Center for Behavioral Economics works with researchers and organisations to advance and apply behavioral science in pursuit of poverty alleviation. In three Busara 'Blue Papers', we are laying out our three year (2022-2025) research agenda on methods, cross-cultural validation and research ethics in line with that mission. This is part of our commitment to rigorous, respectful research in the Global South. We would be glad to discuss collaborations on any of these core questions, and we welcome feedback on these agendas.

One persistent form of inequity lies in unequal availability of data and research. As the World Bank's 2021 World Development Report puts it, "Both poor people and poor countries face fundamental inequities in their ability to access data infrastructure" (World Bank, 2021). Many have argued that the failure to properly study women and people in the Global South has had deeply negative consequences for knowledge and policy, service and product design, in ways that compound and replicate long standing legacies of sexism and racism (Criado-Perez, 2019; Cooper & Morrell, 2014). There are profound inequalities in who gets to lead research - one new review finds that "Fewer than one in six of the articles published in top 20 development journals from 1990 to 2019 were by Southern researchers, while close to three-quarters were by Northern researchers. The remaining 11% were collaborations by Southern and Northern researchers. Additionally, there are also fewer citations per article for Southern-authored articles than for Northern-authored articles" (Amarante et al, 2021).

Within the behavioral sciences, this manifests itself most strongly as the problem of 'WEIRD' research; the overwhelming bulk of the literature is derived from the study of populations that are Western, highly Educated, Industrialised, Rich and Democratic; one study estimated that 96% of the participants in experiments published in top psychology journals fit that bill (Arnett, 2008). Only 0.002% of those research findings came from African samples, yet this is the fastest growing population group in the world today, and already comprises 16.67% of the global population (Arnett, 2008). Some progress has surely been made since then, but not enough. This is especially true of the literature in

behavioral economics, which rests on a central set of canonical biases and heuristics that are held to be universally applicable, but many of which have been studied mainly or exclusively among populations of Western undergraduates (Thaler, 2017), a tiny proportion of the world's population who are themselves different even from other adults in their own societies (Henrich & Henrich 2007; Snowberg & Yariv, 2018). So far as we are aware, none of the commonly employed biases and heuristics was first identified in the Global South, nor was the work to identify any of these led by a scholar from the Global South. Even when research is conducted in the Global South, it is often skewed towards a subset of more-studied countries, and a subset of more easily accessed populations within them (Porteous, 2020). Measures used developed for one context may function markedly differently in another (Laajaj et al, 2019).

This stark bias in who gets studied makes this research base especially fragile. A key finding in the behavioral sciences is that even small changes to context can make for very different results (Thaler et al, 2013; Klein et al, 2018; Henrich et al, 2010a). Through efforts to correct for this bias and more fully map behavioral outcomes, we have solid evidence that such outcomes vary strongly across cultures and contexts, with economic structures and culture playing an important role in explaining that variance (Henrich et al, 2001; Henrich et al, 2010b; Leung & Cohen, 2011). We know psychological processes differ depending on how much money you have (Haushofer, 2019; Mullainathan & Shafir, 2014). Meanwhile, there is evidence that more fundamental cognitive processes are consistent across those domains, and where these can be reliably identified, this has important consequences for understanding variation and consistency across groups (Varnum et al, 2011; Henrich et al, 2010b; Benjamin et al, 2013). By drawing on a mixture of economic preferences and psychological traits, we gain a fuller explanation of economic outcomes than either preferences or traits can yield alone (Becker et al, 2012). There have been several attempts to group, map and structure lists of existing biases and behavioral change techniques (Chapman et al, 2018; Michie et al, 2013). However, no convincing theory of how and why patterns of behavior, cognitive processes, preferences, beliefs, and decision-making processes vary across the world has yet been advanced. With notable exceptions (Nunn, 2020; Becker et al, 2020; Leung & Cohen, 2011; Chapman et al, 2018), we have only just begun to rigorously describe this variation, and there has been little work so far on explaining it.

At the same time, there are profound doubts about the replicability and external validity of many of the findings derived from this original population, and whether such findings are even true of the narrow group they study (Loken & Gelman, 2017; Simons, 2015).

There have therefore been several initiatives to improve the robustness of experimental results across the social sciences (Simons, 2015; Klein et al, 2014). Researchers and some journals now place more emphasis on power calculations, pre-registration of designs, and larger sample sizes, to increase internal validity (Munafò et al, 2017; Blair et al, 2019). A series of very large scale replications have focused on external validity. These have

included the Reproducibility Project (Open Science Collaboration, 2015) and the series of publications by the Many Labs initiative (Klein et al, 2014; Klein et al, 2018; Ebersole et al, 2016; Klein et al, 2019; Ebersole et al, 2020), and other similar efforts (e.g. Camerer et al, 2018; Dunning et al, 2019). With the partial exceptions of EGAP and Many Labs 2, most of these have remained focused on WEIRD samples, without necessarily being set up to test for heterogeneity (McShane et al, 2019). These examples have been established so far mostly as projects and collaborations, rather than as standing institutions with sustained funding.

Behind all of this lies a deeper question: how do we generalise? Generalisability requires a deep understanding of the contexts that we are generalising from and to. As Strohm (2019) has argued, generalisability of findings is not (or not only) a feature of individual papers, but rather is facilitated by a progressive research procedure akin to that used by the biomedical sciences (Lieberman, 2016), structured not by individual researchers but by institutions. We can look to the biomedical sciences for examples of long-lived institutions charged specifically with aggregating such findings and assessing the robustness of domains of evidence, such as Cochrane. This type of institution also exists in the social sciences, without achieving the same centrality to discussions of research processes; examples include the Campbell Collaboration (Petrosino et al, 2001) and the work of 3ie (Snilstveit et al, 2013).

At Busara, we believe that too much of this discussion has been founded on a model in which institutions question and correct for the failings of existing Western research. It is true we must grapple with the research field as we find it. Yet finally, if we are truly to correct the systematic exclusion of many people from the production of knowledge, we must move beyond simply extending Western science to be tested with new populations. There are systematic biases in who is included in research and where research is conducted, in how and by whom research questions are developed, and in how and with whom results are developed and shared.

To address these gaps, we must aspire to more South-South cooperation founded in indigenous knowledge leadership, with theories developed and tested by and for the benefit of those in the Global South (Bouka, 2015; Busia, 2006; Mkandawire, 1996). Behavioral science will thrive best when theories and evidence are just as likely to be conceived and generated by voices from the Global South, with the deepest understanding of the context in which they operate, as the Global North. When behavioral science is operating in a just and robust way, this generates better knowledge, better advice, better and more locally appropriate interventions and better policy to address pressing social problems in the Global South.

## The story of cross-cultural research at Busara

Context-relevant and cross-cultural research is a constant at Busara; it was a central part of the rationale for our founding (Haushofer et al, 2014), and is embedded in almost every project we do. In one of our earliest projects, we contributed research to the World Bank's World Development Report 2015, comparing behavioral responses among groups in Jakarta, Indonesia; Nairobi, Kenya; and Lima, Peru - demonstrating that World Bank staff systematically misunderstand the behavioral preferences of the poor. We have touched on cross-cultural research in everything from our work on privacy (with the IntAct consortium in Kenya and India) to our recent research on vaccine uptake (in Kenya, Nepal and the Philippines). We have run research incorporating mobile laboratory experiments across Kenya, Uganda, Ethiopia, India, Nigeria, Fiji and beyond. Rather than recapping every study here, we will briefly highlight some of the most important pieces of work.

From 2014-2017, we compared low socio-economic status and student samples in Nairobi, Kenya, and New Jersey, USA. We found that several commonly studied biases were moderated by SES and location, with elite students in the US showing the most similarity to the original findings from the Western-dominated literature, and both poorer US participants and both poorer and student populations in Kenya differing on several factors. This study highlighted the need for continual adaptation of instruments to be locally appropriate.

Building on that work, we partnered with the Centre for Social and Behaviour Change in India. Here we made similar comparisons for commonly cited biases between Indian students and low SES groups, with careful work to develop contextually relevant measures (for more on this, see the Busara blogpost 'How Preeti was born'). We found that Indian samples displayed many of the same biases as the Western literature would predict - though wealthier Indian respondents were more similar to those in the US, and poorer participants were less aligned. In some ways, country mattered less than income group - an important reminder that 'context' does not automatically mean 'country'.

In another study, published in 2018 in Behaviour Research and Therapy (Esopo et al, 2018), we examined measures of temporal discounting, self-efficacy, and executive control. Even with careful adaptation, we found low reliability and poor correlational evidence between psychological scales and behavioral tasks measuring the same construct. This was a stark reminder of the exceptional challenges of transferring research measures across cultures, and the need to validate the way we measure behavioral constructs as well. We have similarly tested measures of time budgeting (Balakrishnan, 2015), and value elicitation (Shapiro & Jang, 2018; Shapiro et al, 2020).

Finally, reflecting on Busara's fifth anniversary, we reviewed 28 recent consulting projects (out of the approximately 500 Busara has implemented). We recorded the effectiveness of 12 commonly used interventions. Making things more salient and more tangible seemed to be useful across several projects, as it is in the Western literature (Kahneman, 2012), whereas deploying endorsements to boost credibility was commonly used but often had no, or an outright negative, effect - in partial contrast to the Western-dominated literature.

As noted above, this is only a fraction of the work that goes on around cross-cultural research - much of which gathers knowledge that presently remains within individual project teams. We know that cross-cultural research is not about merely replicating in

one country or another, but about developing a deep understanding of behavior guided by our deep knowledge of the varied contexts of the Global South. This research agenda will allow us to link together these major individual studies with some of the work that is continually being done across the organisation, building tighter feedback loops between the two.

## Busara's contribution

We will contribute to this global debate by commencing a long-term structured research agenda, with Busara playing its unique role as a lasting institution dedicated to cross-cultural research. As an institution, we are in a position to aggregate across the wider literature, as well as Busara's many past projects, and build a clear map of where gaps in the evidence lie (Snilstveit et al, 2013).

To address these gaps, we will prioritise among a taxonomy of findings on patterns of behavior, cognitive processes, preferences, beliefs, and decision-making processes (including, but not limited to, heuristics and biases), and for the most urgent we will develop and document structured, standardized methods for reliably measuring and adapting them in different locations and contexts in the Global South. We will test and retest these contextualized measures. Where these adapted measures perform well, we will share them for use by others through the Science of Behavior Change's Open Instruments Project and other existing databases of measures. For our most-used measures, we will record and report key metrics of reliability each time we use them, and develop and share analysis code that allows us to do this as standard. Where the adapted measures do not perform well, we will share this result, and develop new measures from scratch for this non-WEIRD context. We will also develop and publish a toolkit on procedures for contextualising and validating measures.

As a research institution, Busara will conduct studies using these measures, exploring replicability of findings across nation, culture, socio-economic status and gender - often using our KITE remote research tool. We will explore correlates and predictors of this variation in findings. This work will compare our work across multiple contexts, exploring variance across time, place and demography, starting with studies across multiple populations in Kenya and India and contrasting them with findings from other contexts in which we work, such as Nigeria, Egypt, and Peru - going beyond the countries in the Global South that are already the most frequently studied. We will examine variation not just across countries, but within countries, with a particular focus on those populations that are understudied within otherwise more heavily researched countries. We will highlight and disseminate where patterns of behavior, cognitive processes, preferences, beliefs, and decision-making processes have a special relevance or unique manifestation, or do not recur, in particular contexts.[1]

[1] Though it is a potentially interesting source of variation and instability, we will not emphasize variation over time.

This gives us a funnel for 'de-WEIRDing' behavioral science - we will adapt from the Global North to Kenya, then validate measures there. We will then explore variation (with further adaptation and validation as required) across Global South populations beyond Kenya.

To conclude this agenda, we will begin to integrate our findings with large-scale explanations of global psychological variance, including those offered by cross-cultural psychology (LeVine, 2001), sociology and long-run understandings of colonial legacies and exogenous historical events (Nunn, 2020; Becker et al, 2020), building up informed hypotheses of the most relevant contextual factors in generalising from one place and time to another. By the conclusion of this agenda, we will be in a position to offer a proposed (but not yet demonstrated) description of how and why responses to behavioral measures vary across the Global South, and what the implications of this are for the future of the field.

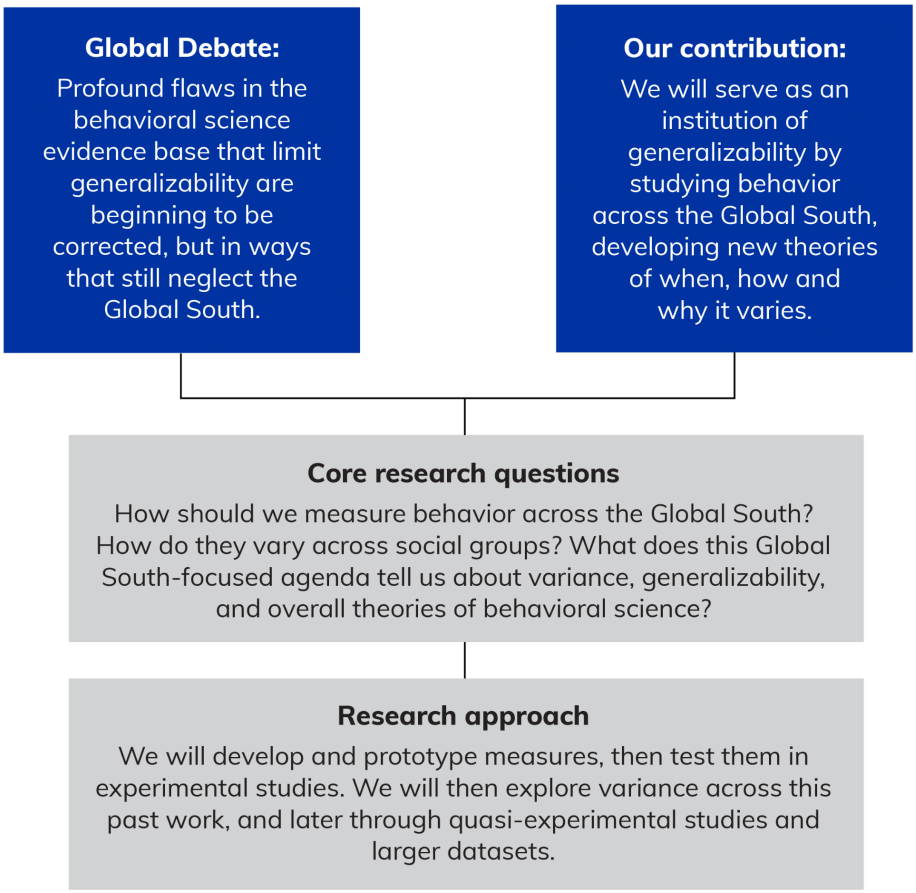
One important and unresolved question remains, which this agenda will not specifically attempt to answer. When we register a result from a study, there are two possibilities: either that result is true, or it is a consequence of measurement error. When behavioral scientists repeat with a new population a study that has previously identified a bias in a different population, and when this new study fails to produce the same result, several new possible explanations appear. Our new result could mean that the bias never existed anywhere, calling into question the validity of the original finding. It could mean that the bias does exist among the first (WEIRD) population, but not among the second (Global South) population. It could mean that one or both studies used instruments that produced measurement error. We increase our confidence in our judgment of which explanation is most likely in several ways: through our role as an institution that aggregates across many studies, by drawing on our experienced staff to develop and carefully pilot measurements, through our deployment of measures across many studies and many populations, and through our commitment to open science. We recognise that this does not provide a complete answer to this enduring problem of epistemology. The only route out of this dilemma is more and better studies. We will not attempt to offer a full answer under this agenda, but rather contribute additional findings and our judgment to help the wider field draw the most useful and generative conclusions.

This work proceeds in close concert with a similar program of work on research methods, which is intimately related. We can differentiate between them thusly: cross-cultural measurement focuses on answering a set of research questions about specific constructs that are central to behavioral science. By contrast, our methods research program will build knowledge about all research methods, with a continual focus on data quality.

# Core questions

Over the three years of this research agenda, from 2022 until 2025, we will comprehensively answer the following core questions, conducting multiple studies to address each one:

1. What is a coherent, theoretically important and valid set of contextually appropriate, tested, reliable measures of canonical patterns of behavior, cognitive processes, preferences, beliefs, and decision-making processes?
2. How do the answers to these questions vary across gender, racial, national, economic and cultural groups, in places that are not Western, educated, industrialised, rich, and democratic?
3. What large scale contextual, theoretical and historical factors do we hypothesise may explain that variance, and what does this tell us about how to judge whether a finding will generalise to a new time or place?
4. Do any new or existing patterns of behavior, cognitive processes, preferences, beliefs, and decision-making processes emerge from the study of, and have a unique relevance to, the Global South?



# Research approach

This progressive research agenda will employ multiple different methods over time. In addressing question one, we will begin by taxonomising, prototyping and deploying measures of behavior. We will learn what works well, and develop a standardised list of such measures. We will begin in Kenya, often using remote research methods, and extend this to new populations and countries over time, addressing question two. Observational and correlative analyses will allow us to see which findings are associated with different groups. Through a series of quasi-experimental studies and by building up larger datasets, we will be able to address questions three and four, even as we continue running smaller and more focused experimental tests throughout the course of this agenda. As well as publishing our results, we will develop and publish a contextualisation and validation toolkit, and a standard battery of survey questions for use across many projects, and reports of the performance of these measures.

Initially you can expect from Busara the publication of a set of behavioral measures, appropriate to and prototyped in Kenya. Later this will be developed and validated for other Global South locations and populations, to present a consistent and valid battery of questions. The agenda will grow and evolve as we explore new contexts and form new partnerships.

# Conclusion

What does it mean for the field of behavioral science that its research findings prove so extraordinarily fragile? What does it mean that they are drawn from such a narrow slice of the population, with the vast, vast majority of the globe having no input and no role in how we understand human behavior? These are profound failings, and it is no wonder therefore that we are at a loss for how to generalise and how to know what will replicate across place and time. This ambitious research agenda will start to correct the inequities of the current field of behavioral science, providing new empirical findings, new methods, new theories and new tools for understanding behavior across the Global South. Our hope is that in doing so, we will start to change practice across the community of research implementers, and via them affect research practice across development economics, behavioral economics, and psychology - in ways that will eventually lead to better conclusions, better policies and the alleviation of the burdens of poverty. This work is at the very heart of Busara's founding purpose of advancing and applying behavioral science, and we are excited to continue it.

## Call for collaborators

These are issues on which we welcome collaborators. If you have feedback on these papers, which are periodically updated, or if you are interested in discussing, supporting or participating in our research agenda on cross-cultural research, methods or research ethics, we'd love to hear from you. Please contact Anisha Singh on anisha.singh@busaracenter.org

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