

The *BIAS FREE* Framework

A New Analytical Tool for Global Health Research

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ABSTRACT

Objective: To test the applicability of the *BIAS FREE* Framework in African settings.

Participants: Researchers from the Tanzanian National Institute for Medical Research, university and community-based researchers from Tanzania, the Gambia and South Africa.

Setting: National Institute for Medical Research, Dar es Salaam - Tanzania.

Intervention: An intensive two-day workshop to examine the applicability of the *BIAS FREE* Framework within an African setting. This involved clarification of the following concepts: construction of knowledge, objectivity, logic of domination, hierarchy, power, sex and gender, disability, and race/ethnicity. The Framework identifies three types of bias problems that derive from social hierarchies based on gender, race and disability: maintaining hierarchy, failing to examine differences, and using double standards. Participants used the 20 diagnostic questions at the heart of the Framework to analyze various research publications, including some authored by participants.

Outcomes: Participants uniformly stated that the Framework is useful for uncovering bias in public health research, policy and programs; that it is immediately applicable in their work settings; and that doing so would improve equity in research and, ultimately, in health. One participant re-analyzed published data using the Framework and submitted a supplementary report with some new recommendations.

Implications: The applicability of the *BIAS FREE* Framework has been demonstrated in diverse settings. It is now being offered for broader application as a tool for uncovering and eliminating biases in health research that derive from social hierarchies and for addressing the persistence of global health inequities.

MeSH terms: Research design; research methodology; objectivity; logic of domination; prejudice; social discrimination; gender bias; sexism; ableism; racism

La traduction du résumé se trouve à la fin de l'article.

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In a recent issue of the CJPH, there was a call for health research to adopt “a human rights and health perspective” that “brings the language of health and medicine face to face with the language of power and social inequality”.¹ It is well established that much research, including health research, suffers from biases that derive from sexism, racism, ableism and other social hierarchies.²⁻⁸

There have been a number of instruments – such as gender-based analysis – developed to avoid the presence of bias in research but these tools have focussed on only one type of social hierarchy – typically gender and, occasionally, race or disability.⁹⁻¹⁸ However, sexism and racism not only intersect with each other but with other social hierarchies like class and sexual orientation.

The *BIAS FREE* Framework is an innovative tool designed to provide a unified approach to detect biases that derive from *any and all* social hierarchies. *BIAS FREE* is an acronym for **B**uilding an **I**ntegrative **A**nalytical **S**ystem **F**or **R**ecognizing and **E**liminating **I**nequities. The Framework identifies three major forms of biases – maintaining hierarchy, failing to recognize differences and using double standards – and employs a set of 20 analytical questions to alert users to their presence in research. It also points the way to preventive or counterbalancing solutions (see Tables Ia-c).

The Framework is anchored in 25 years of published research by the two authors¹⁸⁻²⁹ and is informed by the voluminous research on gender, racist and ableist biases, some of which is cited here.^{8,18,30-37} The Framework synthesizes insights from several bodies of research literature that are usually not considered together and presents a pioneering universal matrix for detecting biases in research derived from social hierarchies.

The Framework has been applied primarily in search of bias stemming from gender, race and dis/ability hierarchies. While it is applicable to biases deriving from other social hierarchies (e.g., sexual orientation, social class, area of residence), such applications have not yet been fully explored.

The Framework has been tested and applied in a number of countries and settings. It has been included in undergraduate and graduate coursework at the

TABLE Ia
Maintaining an Existing Hierarchy, THE BIAS FREE FRAMEWORK

Type of Bias	Diagnostic Questions	Solutions	Research Component	Types of Hierarchy
H—Maintaining an Existing Hierarchy <i>Is dominance of one group over the other in any way justified or maintained?</i>	H1 Denying hierarchy: Is the existence of a hierarchy denied in spite of widespread evidence to the contrary?	<i>Acknowledge the existence of a hierarchy; question and reject its validation.</i>	Title Abstract Executive summary Literature review Research proposal/call for proposal Research question and design Research methods Data analysis and interpretation Concepts Language Policy recommendations	Gender Disability Race/Ethnicity Class Age Caste Religion Sexual orientation Geographic location Income Health status (among others)
	H2 Maintaining hierarchy: Are practices or views that are based on a hierarchy presented as normal or unproblematic?	<i>Question and problematize expressions of hierarchies.</i>		
	H3 Dominant perspective: Is the perspective or standpoint of the dominant group adopted?	<i>Respect and accept the perspectives of non-dominant and dominant groups.</i>		
	H4 Normalization: Are norms derived from the dominant group and then applied to the nondominant group without questioning their relevance?	<i>Acknowledge diversity; exclude norms derived from a social hierarchy.</i>		
	H5 Pathologization: Is the non-dominant group defined as deficient when it differs from the norms derived from the dominant group?	<i>Challenge the norm and address the reasons given for defining the group as deficient.</i>		
	H6 Objectification: Is stripping people of their intrinsic dignity and personhood presented as normal or unproblematic?	<i>Recognize that every human is a person with intrinsic dignity and human rights that are inviolable and must be protected.</i>		
	H7 Victim blaming: Are victims of personal or societal/systemic violence blamed and held accountable?	<i>Do not blame victims; identify individual, societal and systemic violence; and hold accountable those responsible.</i>		
	H8 Appropriation: Is ownership claimed by the dominant group for entities that originate(d) in or belong to the nondominant group?	<i>Acknowledge and respect original ownership.</i>		

TABLE Ib
Failing to Examine Differences, THE BIAS FREE FRAMEWORK

Type of Bias	Diagnostic Questions	Solutions	Research Component	Types of Hierarchy
F—Failing to Examine Differences <i>Is membership in a non-dominant/dominant group examined as socially relevant and accommodated?</i>	F1 Insensitivity to difference: Has the relevance of membership in dominant/non-dominant group been ignored?	<i>Always determine the relevancy of dominant/non-dominant group membership; include group membership as an analytical variable throughout the activity so that its relevancy can be assessed.</i>	Title Abstract Executive summary Literature review Research proposal/Call for proposal Research question and design Research methods Data analysis and interpretation Concepts Language Policy recommendations	Gender Disability Race/Ethnicity Class Age Caste Religion Sexual orientation Geographic location Income Health status (among others)
	F2 Decontextualization: Has the different social reality of dominant and non-dominant groups explicitly been considered?	<i>Explicitly examine the context with respect to dominant/non-dominant group membership and identify and analyze differences following from this.</i>		
	F3 Over-generalization or universalization: Is information derived from dominant groups generalized to non-dominant groups without examining if it is applicable to the non-dominant groups?	<i>Acknowledge information about the dominant group, and make efforts to obtain information about the non-dominant group.</i>		
	F4 Assumed homogeneity: Is the dominant or non-dominant group treated as a uniform group?	<i>Acknowledge and take into account differences within dominant and non-dominant groups.</i>		

University of Toronto and Calgary in the period 2002-2005, and in Germany in 2005. Workshops have been conducted in a number of countries, including Canada, Costa Rica, Germany, India, Mexico, Senegal, Switzerland and Tanzania, and at the United Nations as part of an Ad Hoc Committee Meeting on the UN

Convention on the rights of disabled persons, where it was well received.³⁸ More workshops are planned.

This article reports on the outcome of one intervention only: a workshop conducted in Dar Es Salaam, Tanzania, in May 2005. The workshop was conducted in Africa to test whether the Framework

was as applicable in Africa as in high-income countries, where it was developed.

PARTICIPANTS, SETTING AND INTERVENTION

The participants were researchers from the Tanzanian National Institute for

TABLE 1c

Using Double Standards, THE BIAS FREE FRAMEWORK

Type of Bias	Diagnostic Questions	Solutions	Research Component	Types of Hierarchy
D—Using Double Standards <i>Are nondominant/dominant groups dealt with differently?</i>	D1 Overt double standard: Are nondominant and dominant groups treated unequally?	<i>Provide equal treatment to members of dominant and non-dominant groups to increase equity.</i>	Title Abstract Executive summary Literature review	Gender Disability Race/Ethnicity Class
	D2 Underrepresentation or exclusion: Are non-dominant groups under-represented or excluded?	<i>Include non-dominant groups to verify their relevancy.</i>	Research proposal/Call for proposal Research question and design Research methods	Caste Age Religion
	D3 Exceptional under-representation or exclusion: In contexts normally associated with non-dominant groups, but pertinent to all groups, is the dominant group underrepresented or excluded?	<i>Appropriately represent and/or include dominant groups in issues of relevance to them that have been stereotyped as being important only for a non-dominant group.</i>	Data analysis and interpretation Concepts Language Policy recommendations	Sexual Orientation Geographic Location Income Health Status (among others)
	D4 Denying agency: Is there a failure to consider nondominant/dominant groups as both actors and acted upon?	<i>Examine ways in which dominant and non-dominant groups are both acting as well as acted upon.</i>		
	D5 Treating dominant opinions as facts: Are opinions expressed by a dominant group about a nondominant group treated as opinion or fact?	<i>Treat opinions expressed by dominant groups about non-dominant groups as opinions, not fact.</i>		
	D6 Stereotyping: Are stereotypes of non-dominant/ dominant groups treated as essential aspects of group membership?	<i>Treat stereotypes as stereotypes, not as truths, and work towards abolishing them or ensure they are excluded.</i>		
	D7 Exaggerating differences: Are overlapping traits treated as if they were characteristic of only non-dominant / dominant groups?	<i>Document both the differences and the similarities between members of non-dominant and dominant groups.</i>		
	D8 Hidden double standard: Are different criteria used to define comparable facts with the effect of hiding their comparability?	<i>Ask whether there might be a hidden double standard by looking for non-obvious parallels. One way of achieving this is by asking what form the phenomenon identified within one group might take within another group.</i>		

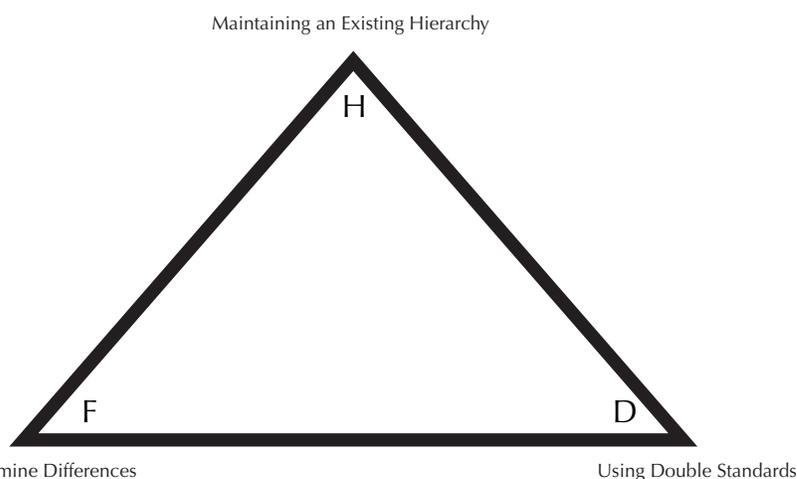


Figure 1. The BIAS Triangle

Medical Research, and other university and community-based researchers from Tanzania, The Gambia and South Africa. The workshop consisted of two days of intensive training in using the BIAS FREE Framework – clarifying concepts, examining the theoretical underpinnings and applying it to specific

public health interventions and research.

After examining the major forms of biases and the different ways they manifest in different literatures and at different stages of the research process, participants applied the Framework to a number of articles,³⁹⁻⁴³ as well as to a series of hypothetical scenarios.

Working in small groups, they identified bias problems in the materials and suggested solutions to overcome them.

At the end, there was a written evaluation and discussion of the workshop.

Theoretical underpinnings

Three issues are most important:

1. Power shapes knowledge, including research, and social hierarchies shape the way research is conducted. This introduces biases in research that distort findings in ways that maintain existing hierarchies.⁴⁴
2. Objectivity is increased to the degree that critics are integrated into a community of scholars.⁴⁵
3. The logic of domination does not change, but it manifests in infinitely varying ways across hierarchies and socio-historical-economic and political contexts.⁴⁶

Major forms of biases

The Framework identifies three major forms of biases that derive from social hierarchies, as Figure 1 illustrates.

1. Maintaining a Hierarchy (H)

This type of bias presents in a number of ways, including: accepting hierarchy as natural; denying hierarchy exists; adopting the perspective of the dominant group (e.g., defining disability as a defect);⁴⁷ applying the norms of the dominant group to non-dominant groups⁴⁸ (e.g., the aspirin study);⁴⁹⁻⁵¹ objectification of specific persons or groups;⁵² pathologization (e.g., the medicalization of Down syndrome);⁵³ victim blaming (e.g., failing to acknowledge the impact of colonialism on the behaviour of colonized people⁸); and appropriation.⁵⁴⁻⁵⁶

2. Failing to Examine Differences (F)

Failing to examine socially relevant differences begins with insensitivity to differences. For instance, women and men often do different work even though job titles are the same. Occupational health studies need to take this into account.³² The failure to recognize potentially different implications of research for dominant and non-dominant groups is an example of decontextualization,⁷ the converse of overgeneralization and universalization of dominant-group information.²⁵ Treating groups, dominant or not, as homogenous is also a failure to pay attention to differences.⁵⁷ Every person belongs to more than one social group and this intersection and interaction of various hierarchies is an area that needs more research.

3. Using Double Standards (D)

The most basic form of double standard is unequal treatment of non-dominant groups that reinforces subordinate status. Research that reports the race of participants only when they are non-white⁵⁸ is an overt double standard. Under-representation or exclusion is also a type of double standard, e.g., women were long excluded from drug trials but the findings – typically a new drug or treatment regimen – were routinely applied to women and men.⁵⁹ Treating dominant *opinions* as *facts* is another expression of a double standard.⁶⁰ Treating stereotypes as if they were essential rather than socially constructed aspects of group membership is another.^{61,62} So too is the tendency to exaggerate differences, e.g., categorizing members of non-dominant/dominant groups into discrete groups rather than treating them as groups with overlapping characteristics.²⁵ Double stan-

dards also effectively deny agency on the part of non-dominant groups, such as disabled people,⁶³ while dominant groups are usually seen only as actors rather than also as acted upon.

Much of the existing literature focusses on only a portion of the “bias triangle”. If the focus is only on double standards, for example, without taking into account the hierarchy and examining the differences, we are dealing with a notion of formal equality that looks at equality of opportunities rather than at equality of results.

Much more prevalent is the problem of focussing *only* on differences – be they based on gender, race, or ability. The outcome may be that differences derived from the existence of a hierarchy are unwittingly cemented rather than reduced. The solution is to acknowledge and examine the differences while simultaneously asking about the similarities between groups, and to lodge the interpretation within the context of an existing hierarchy.

Research must, therefore, always ask enough of the right questions in order to expose all three major forms of biases. Otherwise, there is the illusion that a problem has been fixed. This is the case when research is submitted to gender-sensitive analysis – identifying and discussing differences between the sexes – but neglects to look at the similarities between females and males, and fails to problematize the gender hierarchy.

The *BIAS FREE* Framework is designed to be used at any and all stages of research: proposal; research question and design; concepts; research methods; literature review; data analysis and interpretation; language, title selection; and policy recommendations. The Framework is applicable to areas other than research, including legislation, policies, programs, services and practices; and it is applicable beyond health.

The Framework is designed to distinguish among a number of complex and interrelated problems and identify the roots of the problems so that appropriate and responsive solutions can be identified. Concerted effort is required at many levels to fully map out the solutions that may include changes in policies and practices at both broad macro-economic levels and in intra- and inter-personal contexts, and involve diverse players in families, communities, within organizations, governments

and the international community. Dismantling social hierarchies is an enormous task – challenging existing power structures and longstanding cultural traditions and practices – and may take many years to resolve, but within research some solutions are straightforward and relatively easy to implement. Others would require a shift in power that will not be brought about only through research.

OUTCOMES OF DAR ES SALAAM WORKSHOP

Using the Framework, participants uncovered significant biases in the work reviewed, including *dominant perspective* (H3),^{39,42} *insensitivity to difference* (F1)^{40,41} and *treating dominant opinion as fact* (Question D5).⁴³ In their evaluations, participants uniformly stated that the Framework was helpful. All respondents (N=11)* said: they anticipated using the Framework in their work and doing so would make a difference; the Framework would be useful for their organizations; and they were interested in becoming *BIAS FREE* trainers.

Respondents welcomed the “sensitivity and specificity” of the Framework in exploring, probing and challenging “blockages” and “unspoken biases” related to non-dominant groups and hierarchies. The hypothetical applications they made during the Workshop to calls for proposals, writing proposals and assessing research proposals for funding and publication, were useful exercises to explore the Framework’s potential for immediate application in their work.

All participants felt the Framework would be useful in the African context. One noted, “Africa is extremely diverse in terms of race, language, religion and culture. The Framework makes it easier to consider all of these elements in the work we undertake.” Participants acknowledged that bias, hierarchy and discrimination are entrenched in Africa – e.g., gender, area of residence (rural vs. urban) and income level – and that policies and programs “suffer” from most of the problems highlighted in the *BIAS FREE* Framework. Immediate application was seen for: research on teenage pregnancies, sexual harassment policies and discrimination related to

* N=11: 6 men, 5 women; 9 Blacks, 2 Whites

HIV/AIDS; determining community health needs and improving health care delivery systems; and, more universally, “research, legislation, policies, programs and practices.”⁶⁴

The best results are always achieved by examining materials in which participants have collaborated. In analyzing a paper written by one of the participants on the impact of user fees on access to health care,⁶⁵ participants found that the paper had considerable strength but, nevertheless, displayed gender bias in the data interpretation. They discussed how the analysis could be improved. The participant subsequently took the paper back to the original research team. The team wrote a voluntary supplementary report focussing on the gender aspects that had been missed (such as the exclusion of women from community governance structures and gender differences in expenditure patterns), and are discussing recommendations to be added. These preliminary results were reported at Forum 9 of the Global Forum for Health Research in Mumbai in September 2005.⁶⁶

DISCUSSION

The workshop demonstrated the sensitivity and adaptability of the *BIAS FREE* Framework and its applicability in diverse cultural and social settings. Constructive feedback on how to improve the presentation of the Framework was received. Next steps are to develop an on-line database of examples of bias uncovered using the Framework and training materials to accompany the theoretical framework.⁴⁸ The concepts may be challenging for people not already familiar with the critical literature, so discussion of the relationship between power and knowledge needs to be integral to the Framework. Examples must also be specific to each socio-cultural context where the tool is used. However, the Framework's utility has now been demonstrated.

The *BIAS FREE* Framework is offered as a tool for uncovering and eliminating biases that derive from social hierarchies and for addressing the persistence of global inequities in health research. Historically, people have experienced much harm because of biases in health research, in direct contrast to the ethical principle of “do no harm.” While the elimination of

biases in research that derive from social hierarchies does not guarantee equitable health outcomes, it is a necessary – although not sufficient – precondition.

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RÉSUMÉ

Objectif : Tester les possibilités d'application d'un cadre d'impartialité (le *BIAS FREE Framework*) dans le contexte africain.

Participants : Chercheuses et chercheurs de l'Institut national tanzanien pour la recherche médicale et des milieux universitaires et communautaires de la Tanzanie, de la Gambie et de l'Afrique du Sud.

Lieu : L'Institut national pour la recherche médicale de Dar es-Salaam, en Tanzanie.

Intervention : Un atelier intensif de deux jours pour examiner les possibilités d'application du cadre *BIAS FREE* dans le contexte africain. Il s'agissait de clarifier les notions de construction des savoirs, d'objectivité, de logique de domination, de hiérarchie, de pouvoir, de sexe et de sexospécificités, d'in/capacité, de race et d'appartenance ethnique. Le Cadre définit trois types de biais découlant des hiérarchies sociales fondées sur les sexospécificités, la race et l'in/capacité, soit : le maintien de la hiérarchie, le non-examen des différences et l'emploi de deux poids deux mesures. Les participantes et les participants ont utilisé les 20 grandes questions diagnostiques du Cadre pour analyser divers articles de recherche (dont ils étaient même parfois les auteurs).

Résultats : Les personnes présentes ont uniformément déclaré que le Cadre était utile pour déceler les biais dans la recherche, les politiques et les programmes en santé publique. Elles ont affirmé également qu'elles pourraient appliquer le Cadre tel quel dans leur milieu de travail, et que son application améliorerait l'équité dans le domaine de la recherche et, en bout de ligne, dans celui de la santé. L'une des personnes présentes a refait, à l'aide du Cadre, l'analyse de données publiées, puis présenté un rapport supplémentaire comportant de nouvelles recommandations.

Conséquences : Les possibilités d'application du cadre *BIAS FREE* dans divers contextes sont démontrées. On offre maintenant ce cadre sous la forme d'un outil à plus grande échelle pour déceler et supprimer les biais de la recherche en santé découlant des hiérarchies sociales et pour aider à effacer les inégalités sur le plan de la santé mondiale.