

**REPORT OF THE SPECIAL COMMITTEE ON GLOBE Diversity, Equity, and Inclusion (DEI) ASSESSMENT**

This material is based upon work supported by the National Aeronautics and Space Administration (NASA) under Cooperative Agreement NNX17AD75A.

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## RINTRODUCTION

### Operational Context

In 2020, The Global Learning and Observations to Benefit the Environment (GLOBE) Program convened a Diversity, Equity, and Inclusion (DEI) Task Force. This body was formed to think about issues related to **JEDI-EA** (Justice, Equity, Diversity, Inclusion, Equality, and Accessibility) as they impacted GLOBE and its constituencies, as well as about steps that could be taken to affect a completely embracing and respectful human environment within the program facilitating full participation by individuals from all sectors of the global community in its activities. One of the recommendations from that Task Force was that there be preparation, distribution, collection, and analysis of a DEI assessment survey, the purpose of which would be:

- A. Assessing the state of JEDI-EA Knowledge and Practice across the GLOBE infrastructure
- B. Assessing what JEDI-EA resources are needed for additional support.
- C. Discovering categories of JEDI-EA assessment and evaluation not normally considered in GLOBE practice and JEDI-EA considerations for the purpose of including them going forward and improving the quality of the interface between GLOBE and present and future members of its constituencies.

This document is the report of the results from that assessment instrument and process. It is central first to review a set of relevant terms.

### Glossary of Terms

**JEDI-EA** is an expanded definition of DEI and is an acronym, the component parts of which are Justice, Equity, Diversity, Inclusion, Equality and Accessibility.

- A. **Race and Ethnicity** Referring to the consideration of JEDI-EA as it relates to the full participation of constituency members in terms of real or posited biological and/or ethnic characteristics, as well as to the real or posited sociocultural aspects of these. For example, discrimination by skin color.
- B. **Biological Sex, Gender (Identity and/or Expression) and Sexual Orientation** Referring to terms of biological sex differences, differences in personal gender identities and expressions, and differences in an individual's sexual orientation. Potential consequence: elevation of males over females, elevation of one gender identity over another, elevation of one social expression of gender over another, or discrimination based on sexual orientation.
- C. **Class and Caste** Referring to the consideration of JEDI-EA as it relates to the full participation of constituency members in terms of differences in socioeconomic standing or social status position, as well as to the real or posited sociocultural aspect of these. For example, deficits in the economic resources individuals and groups have in procuring the technology, transportation, or other elements necessary for GLOBE participation or denial of participation to those in a particular social group seen as having an inferior status.

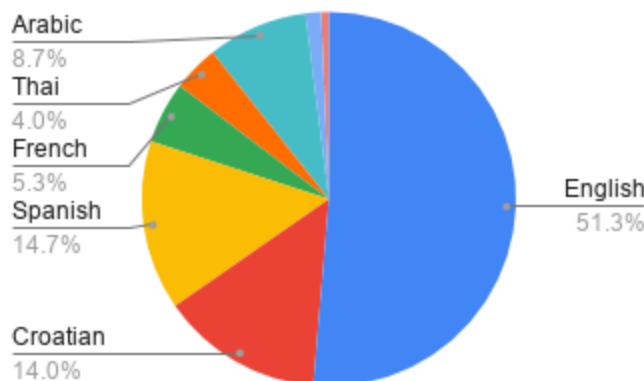
- D. **Physical Ability** Referring to consideration of JEDI-EA as it relates to the full participation of constituency members in terms of variance in physical ability. For example, failure to address the issue of wheelchair accessibility to GLOBE data collection sites.
- E. **Neurodiversity** Referring to consideration of JEDI-EA as it relates to the full participation of constituency members in terms of variance in neurological, psychological, and mental function. For example, failing to assure that pedagogical methods consider alternative styles of cognitive learning.
- F. **Religion and Spirituality** Referring to consideration of JEDI-EA as it relates to the full participation of constituency members in terms of variance indifferent modes of religious and/or spiritual observance. For example, failing to consider, in the scheduling of GLOBE activities a possible need to excuse participants for the conduct of and/or participation during certain religious observances.
- G. **Verbal and Nonverbal Language, Accent, and Dialect** Referring to consideration of JEDI-EA as it relates to the full participation of constituency members in terms of differences in either one's "native" tongue or one's preferred language of communication. For example, failing to translate materials and tools and programmatic delivery into the appropriate languages for the relevant constituency. It also extends to cover situations where there may be one primary language in play, but where discontinuities in capacity for participation and or the treatment of individuals may vary according to the accent and/or dialect in which individuals engage that language.
- H. **Age** Referring to consideration of JEDI-EA as it relates to the full participation of constituency members in terms of differences in chronological age. This is about facilitating participation without specific regard to what end of the age scale one is considering, from youth to senior citizens.
- I. **Structural Governance** Referring to consideration of JEDI-EA as it relates to the full participation of constituency members in terms of aspects of the social and political environment that act as impediments to or incentives towards the realization of JEDI-EA objectives.

One of the charges issued from the GLOBE DEI Task Force, consequent to its work and its own purpose to engage and explore issues related to JEDI-EA (Justice, Equity, Diversity, Inclusion, Equality, and Accessibility) for the collective, was that there be conducted a formal organizational review and assessment on the subject. A special committee assembled from members among the newly formed GLOBE DEI Working Group and the Task Force as well as members of GIO staff was convened and funded for the purpose of designing a survey instrument for the study, distributing it to the broadest possible portion of the GLOBE constituency, collecting the results, and producing a report on those results.

### **Language Distribution**

The special committee assembled in January of 2021 began to undertake the task at hand. Among the early decisions made was to assure that the survey be made available in as many translations of language as possible relative to their use within GLOBE. The committee was fortunate to have among its membership, individuals who were willing to volunteer their own personal energy and time to the efforts at translation, both at the early stages of developing the questionnaire and subsequent as the data was being collected. We are thankful to committee members Juan Restrepo Mesa, Marina Pavlič, and Rosalba Giarratano for their efforts in this respect. We are also thankful to Katie Chapman, GIO, for her work ensuring that all required professional translation services were commissioned on behalf of the committee. In the end, the survey was available and received responses in Arabic, Croatian, Czech,

English, French, Portuguese, Thai, and Spanish. Fully 48.7% of the responses came from respondents using languages other than English.



*Figure 1. shows a graphic representation of the language used in the GLOBE Community to complete the distributed Needs Assessment.*

### **Country Representation**

GLOBE is truly a global organization and we aimed at getting as broad a representative sample as we could in terms of the countries that GLOBE currently served. We ultimately received 150 responses from 40 countries. We are quite proud of the scope of our coverage, given the relatively short time we had to assemble the survey instrument, administer it, and collect and analyze the results.

### **Scope of Content**

The second task was identifying the major portion of the survey where we wanted to ask about areas of JEDI-EA.. We began with consideration of what might be called “traditional” areas of JEDI-EA. First was “race” and ethnicity. Then we turned our attention to sex, gender, and sexuality. Over time we refined this concept wanting to emphasize socially constructed presentations of gender over biological sex and ended up with gender bifurcated into elements of identity and expression. Sexuality evolved into sexual orientation. We began with physical disability and ultimately evolved to a conclusion which suggested that not all who had what societies might characterize as physical disabilities would see them as such. We became more sympathetic to the perspective that these could be legitimately and alternatively perceived as “differential abilities” in which their elements were to be considered, not necessarily as impediments but as alternative approaches to engagement. Having gotten this far, we centered even more around moving from the limiting language of just discussing disability and making sure it was paired with ability.

Following a similar logic, we took the idea of those who might have mental challenges of various times and looked at creating language that also could validate the notion that what might initially be seen as an impairment could be additive to experience. We chose the term “neurodiversity” reflecting the fact that human beings apprehend the mental world differently and therefore that we should be about the business of trying to facilitate that in terms of engagement and participation in GLOBE. Perhaps the most evolved thought went into the idea of language. We began as most commonly, with

alternative translations of verbal languages, but quickly realized that we wanted to include language beyond these that reach out to the deaf and to the blind. The result was the addition of nonverbal language. We then grappled with the notion that even where there might be some consensus and consistency with respect to core language, there were significant differences to be considered with respect to accents, dialects, and vernaculars. Next there were the critical elements of class and caste. Class referring specifically to the broad discrepancies of resources available to those in the GLOBE community for engaging its experiences. Caste referring to social customs and traditions, sometimes associated with economic position but also sometimes relating to ethnicity, lineage, and social position that act as impediments to individual and group mobility. The last in the “traditional” category list to appear was age. We thought it important to try to make sure onboarding and throughput processes associated with GLOBE would encompass the expertise of the aged with the energy and vigor of youth and carving out a place for both.

After considering the basic template of the instrument, we turned to some additional nontraditional elements of inclusion and variance that we had anecdotal reason to believe potentially significant for GLOBE.

- First was geography. We meant to include this variable in two mutually related but different senses. First, there was simple location. Where were and are GLOBE services relative to the communities and constituencies being served? Is transportation, for example, a major restrictive element for participation and something that should be considered within the context of costs and financial planning for delivery of programming?
- Secondly, we wanted to consider the actual geography of the places where GLOBE activities were taking place that may affect the capacity to implement, for example, protocols or perhaps topography and environmental conditions that could make data collection more challenging.
- The third nontraditional element we decided to examine was the structural context in which GLOBE groups were and are operating. What are the advantages and disadvantages of those myriad contexts? Perhaps there are relationships in particular sites between the state and the private sector which advantage GLOBE programming and its extension. Conversely, perhaps there are relationships of authority and funding streams and legal constraint or tradition that impose barriers to GLOBE participation of teachers and students, or to the delivery of GLOBE services.

We knew as a collective that it would have been very presumptive of us to assume that we had the capacity, in and of ourselves, to construct an exhaustive list of all the categories and areas related to JEDI-EA that might exist in societies in general or with respect to GLOBE specifically. We knew it was necessary to tap the tremendous expertise we find in GLOBE, to add to our categories list or conversely, to offer critique so that perhaps categories might be better formulated or reconsidered. We developed a list of open-ended items to facilitate respondents being able to add components to the questionnaire themselves and even to analyze and comment upon our general efforts to raise the profile of JEDI-EA related matters in GLOBE. This report includes a thorough summary analysis of those results.

We are very thankful for the input given by all of you, our GLOBE colleagues who participated in the survey and especially to those who shared their more extensive thoughts, ideas and sometimes “best practices” with us via the open-ended survey items.

## **METHODOLOGY**

### **Format of the Questions**

After deciding what we wanted to ask, the next task was deciding on the format of the questionnaire. While we knew that we wanted the open-ended components, we still had the task of trying to capture the input for our central categories. We decided on a Likert scale type model with a few customizations, asking respondents to give us some sense of their relative “comfort level” for respective categories of JEDI-EA engagement. Responses were structural to range from very comfortable to very uncomfortable.

Another series of questions moved to a more micro level of analysis, no longer assessing an individual’s relative “comfort level” with the categories, but rather their relative level of engagement with those categories. These responses were structured according to types of participation for each category. These ranged in turn in intensity from merely having a commitment to the principle of inclusion with respect to a particular category to more intensive engagement like building inclusion in the category into personal processes within GLOBE or seeking out related partnerships with those committed to the respective category, and culminating in perhaps the highest level, the measuring of progress and incorporation of assessment in terms of participation with respect to the relevant category.

We also asked about “best practices” related to JEDI-EA, trying to capture those things that were working well and, on the other side of the ledger, the need for additional resources, training, and materials that could facilitate the address of any deficiencies.

### **Distribution**

The survey was open for slightly longer than 2 weeks and distributed, after approval from the GIO, to a variety of GLOBE constituency members through a wide variety of organizational “inflection” points where we thought there would be the highest likelihood of response. We periodically conducted reviews of the process of distribution trying to assess as best we could, if there were any major impediments. Overall, we are comfortable with the level of access most who might have been inclined to complete the survey would have to procuring a copy and submitting a response. There were, as might be expected, a few instances where we felt that a bit of personal intervention on the part of some of the members of the committee might have generated some additional responses for certain constituencies, but hindsight in this sense is twenty-twenty, and we do not feel that any shortcomings in that respect in any way affected the efficacy of the results.

### **Collection and Instrument Validation**

Once the survey results were returned to us, we had again the challenge of translation. We took advantage of the same human and technological resources we engaged with for the construction of the survey. We also had a technical issue in which some responses were not initially formatted properly for

our subsequent analyses. We are thankful to Katie Chapman again for her herculean efforts to make sure the data was adjusted and reformatted for our use.

We were next faced with the task of making sure that the survey instrument itself was valid. There were a varying number of quantitative tests at our disposal for this purpose. Juan Restrepo Mesa proposed that we employ Cronbach's alpha.

It is a coefficient that measures how reliable a set of variables is, with respect to defining a certain quality. It fluctuates in a value on the continuum between the 0 and 1, with a score above 0.8 indicating that the given assessment instrument is considered highly reliable for its purpose.

*Table 1. Cronbach's alpha Interpretation Key*

Interpretation Key (From 0 to 1)	
0-0.2	Very Low reliability
0.2-0.4	Low reliability
0.4-0.6	Moderate reliability
0.6-0.8	Good reliability
0.8-1.0	High reliability

Variance Method:

$$\text{Cronbach's alpha} = K / K-1 \times [ (1 - \sum Vi) / Vt ]$$

Where:

K = Number of Items

Vi = Each register's variance

Vt = Total Variance

The first test was to assess the efficacy and performance of our measures relative to the questions section focusing on the central tendency of respondent's feelings as it related to "comfort" with categories. The answers were coded in terms of 1's and 0's based on the direction of the respondent's sentiment. The test found that our measurement device was highly reliable and consistent with respect to gauging respondent "comfort."

*Table 2. Cronbach's Alpha Survey Processing Summary*

This table shows the survey processing summary using "Variance" as the Cronbach's Alpha method of the questions section.

No. Items	60 (6 questions x 10 categories)
No. possible answers	2 (1 or 0)
R Cronbach's Alpha ( $\tau$ ) method	Variance
Cronbach's Alpha	0.95
From 0.8 to 1.0	Highly Reliable and Consistent

The second test was to gauge the responses to the sections where respondents had to engage the various categories in terms of the level of engagement and participation. There were two tests done here, to account for the fact that we had some respondents who did not respond to each item. In the first test, the omitted responses were coded as "neutral" as if a respondent who omitted an account with respect to a specific category was signaling that they simply had no strong preferences for or against engagement with respect to that category.

*Table 3. Cronbach's Alpha Survey Processing Summary*



*This table shows the survey processing summary using “Variance” as the Cronbach’s Alpha method of the categories section. In this case, blanks were replaced by the option “3”, neutral.*

No. Items	10
No. possible answers	5 (1 =very uncomfortable, 2 = uncomfortable, 3 = neutral, 4 = comfortable, 5 = very comfortable)
Cronbach’s Alpha method	Variance
Cronbach’s Alpha	0.89
From 0.8 to 1.0	Highly Reliable and Consistent

The test found, again, that the assessment devised was highly reliable and consistent with respect to generating useful data concerning respondents’ engagement with the category, taking the omitted responses as evidence of the latter’s neutrality.

A second test simply blanked the register when results were omitted, hypothesizing that the respondent intended not to respond. The dataset is then reduced to those who explicitly took a position on the relevant question.

*Table 4. Cronbach’s Alpha Survey Processing Summary*

*This table shows the survey processing summary using “Variance” as the Cronbach’s Alpha method of the categories section. In this case, registers including blanks were eliminated.*

No. Items	10
No. possible answers	5 (1 =very uncomfortable, 2 = uncomfortable, 3 = neutral, 4 = comfortable, 5 = very comfortable)
Cronbach’s Alpha method	Variance
Cronbach’s Alpha	0.85
From 0.8 to 1.0	Highly Reliable and Consistent

For a third time, the test showed that the assessment device proved highly reliable and consistent even with the blanking of the register for excluded data. One of the insights we developed out of this set of findings, beyond moving forward with this data as reliable and consistent for our specific assigned purpose is thinking about ways in which our methodology here might be made available via publication to provide a potential tool for similar organizations in STEM or otherwise similarly situated to engage JEDI-EA type assessment. We are grateful to Juan Restrepo Mesa for proposing this authoritative test and for calculating the results on our collective behalf.

In considering these results, we must remain cognizant of a point raised by Rosalba Giarratano, who had a post-assessment dialogue with one respondent who indicated that her own non-responses to certain categories did not reflect neutrality or an intent not to respond at all, but rather her perception that she did not know enough to respond. It is worth noting this certainly could be true with respect to other non-responses. In that case, the latter test takes on more importance. While it does not give us sufficient information to know how many respondents were similarly situated in their non-response, we can say of those who did respond, the test showed a high level of reliability.

## RESULTS

### Results Concerning Comfortability

The first set of key questions in the assessment involving the level of comfort that the individual, in the context of his or her GLOBE group, felt with respect to grappling with possible challenges related to JEDI-EA in the delineated ten categories.

How comfortable are you with providing inclusive activities or programming according to the following categories?

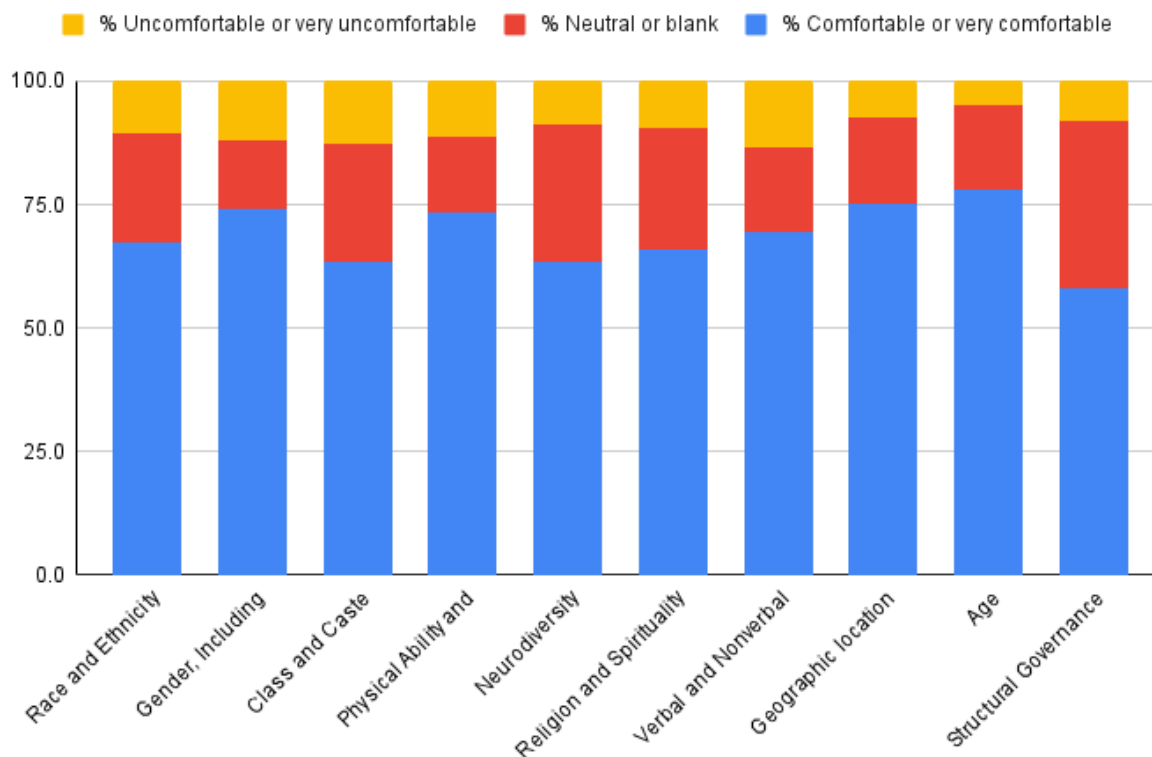


Figure 2 shows the percentage of respondents' comfort level with providing inclusive activities according to the JEDI-EA categories listed.....

Figure 2 illustrates interesting results where most of the respondents identified themselves as either very comfortable or comfortable in providing inclusive programming. This outcome is significant because it both confirmed our internal perspective that the very nature of GLOBE inclines it to be sensitive to JEDI-EA related issues and suggested that the people that make up the GLOBE operational team, in a wide variety of roles, are generally predisposed in favor of discussions and programmatic developments aimed at building on our successes and further improving our capacity to be inclusive and work on JEDI-EA related issues.

At the same time, the lack of unanimity in this regard (a much smaller percentage of responses expressing discomfort: Race and ethnicity 10%, Gender and Sexual Orientation 10%, Class and Caste 10.7%, Physical Ability and Disability 10%, Neurodiversity 6.7%, Religion and Spirituality 8.7%, Language, Accent, and Dialect 10.7%, Language, Accent, and Dialect 10.7%, Geography 6.7%, Age 4.7%, Structural

Governance 7.3%) raised some concern with respect to JEDI-EA, suggesting that while we are progressively positioned with respect to these matters, we are not perfect and that there is work that can be done to improve.

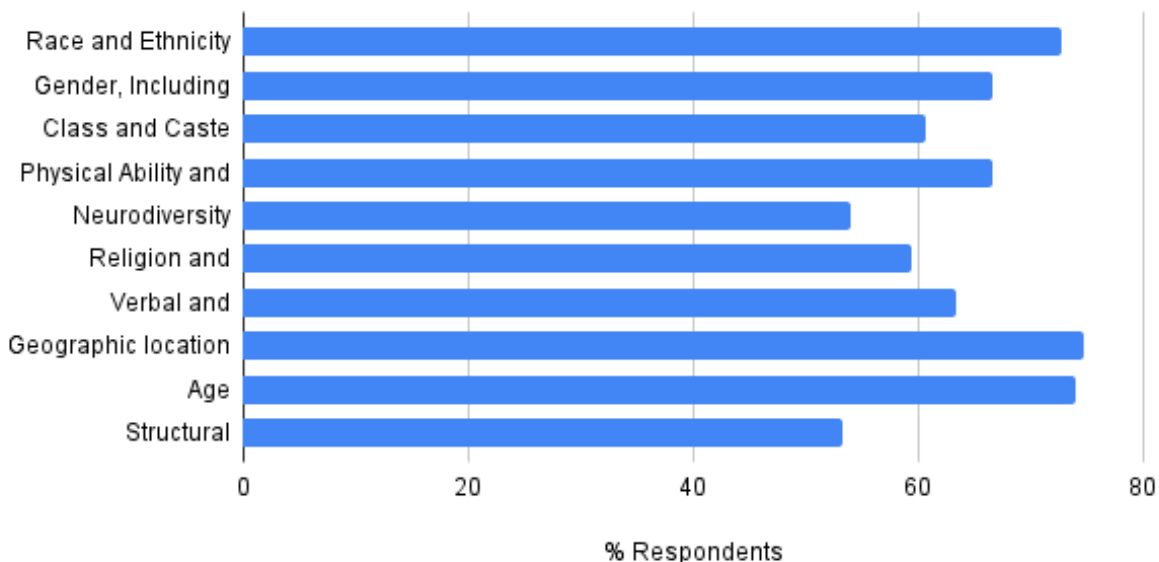
There are several interpretive dimensions to these results.

- One, this could be a measure of individuals that are somewhat resistant to having a focus on JEDI-EA related issues. Their discomfort could come from a lack of awareness of some JEDI-EA categories or from a notion that they feel this is an illegitimate effort. In such cases, this is a recommendation for more education concerning JEDI-EA and the fact that ultimately the goal is to advance on the path of broadening the impact and outreach of GLOBE to even larger global audiences and across all kinds of constituencies.
- A third interpretation is that it could be a measure of challenges with respect to the relevant JEDI-EA categories in their personal GLOBE group. That, in effect they do not feel comfortable advocating for these issues due to a lack of an organizational “culture” in favor of such advocacy. The DEI Working Group is charged with developing the culture around these issues for GLOBE as a whole and providing personal and infrastructure support for those wanting to innovate in measures that facilitate the breaking down of any JEDI-EA barriers existing in the organization. When correlated with open-ended responses by the same group of respondents, we find evidence that both sentiments are being measured in this assessment result.

We also noticed that these results are to some extent what we might expect. The nature of GLOBE suggests that issues of language, physical ability, and economics, among other things would figure prominently, followed by traditional categories like “race” and gender, with somewhat lesser responses given to the other categories. The preliminary work of the GLOBE DEI Working Group is consistent with this, with its focus on addressing language, economic impediments, and accessibility.

**Question** About Goal Setting Concerning JEDI-EA Categories

My goals include a clear commitment to the full participation of individuals inclusive of these categories:

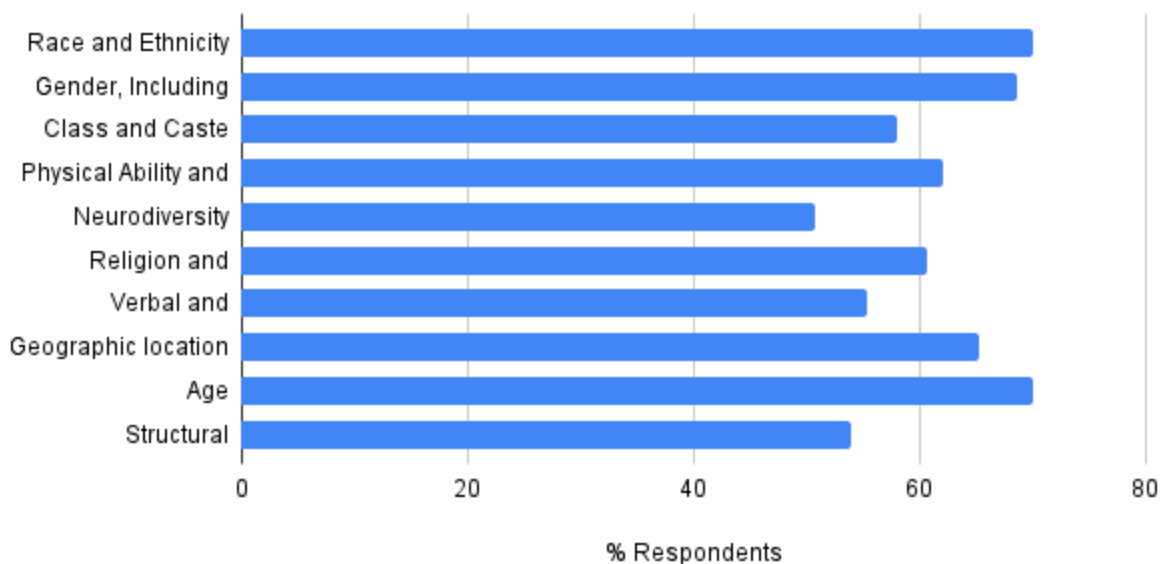


**Figure 3 shows percentages of respondents' commitment to full participation of individuals inclusive of JEDI-EA categories listed.**

The results of the assessment with respect to the question about respondents having commitment goals to full participation inclusive of the different categories, show that 50% and higher of respondents do include a clear commitment to full participation in all categories. However, we would have liked to see a 100% response of commitment. From the committee's perspective, having any component of GLOBE not having a commitment in their goals to make sure that an individual will not be impeded by the effect of any of these categories is a problem. We believe this is going to be addressed by the forthcoming GLOBE DEI Working Group "JEDI-EA citizen" standards which, among other things, will contain a recommendation that each GLOBE group make an explicit commitment to facilitating participation in their activities for individuals affected by most of the categories. commitment would mean such groups setting goals for innovation and reform, when and if it is established that one or more of the categories are creating a barrier to participation and/or effective participation.

### Question Concerning Work Environment Relative to JEDI-EA Categories

My work within GLOBE allows for full participation of individuals inclusive of these categories:



*Figure 4 shows the percentage of respondents whose work within GLOBE allows full individual participation inclusive of the JEDI-EA categories listed.*

Similarly, the results of the assessment with respect to the questions about the degree to which respondents work environment facilitate participation for those affected by the various categories of JEDI-EA is less important in terms of the aggregate numbers than with respect to the fact that a plurality of respondents indicated that there **were** categories for which their GLOBE work context did not facilitate participation and/or effective participation. While the categories of exclusion were different for various respondents, the fact that all categories were mentioned at some point by some measurable number of individuals is problematic. From the committee's perspective, having **any** component of GLOBE **not** facilitating the participation of an individual impeded by the effect of these categories is a problem. We believe this will also begin to be addressed by those forthcoming GLOBE DEI Working Group "JEDI-EA good citizenship" standards which will contain that recommendation that each GLOBE group make an explicit commitment to facilitating participation in their activities for individuals affected by most of the various categories. That commitment would obviously mean addressing situations that present evidence of a barrier to participation.



### Question Concerning Partnership-Seeking Relative to JEDI-EA

I pursue partnerships that help overcome barriers to participation in these categories:

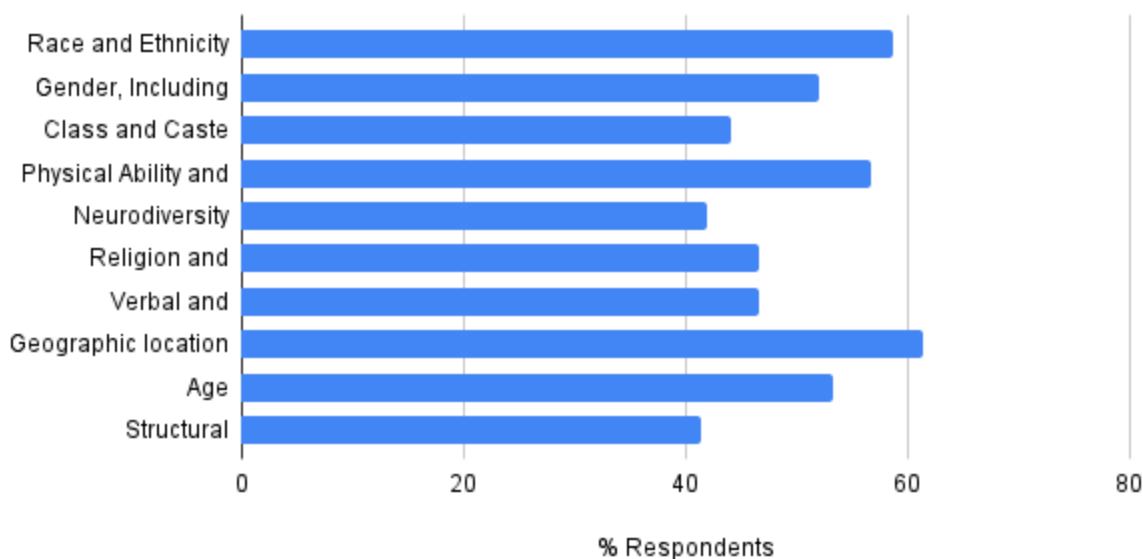


Figure 5 shows the percentages of respondents who seek partnerships related to the JEDI-EA categories listed.

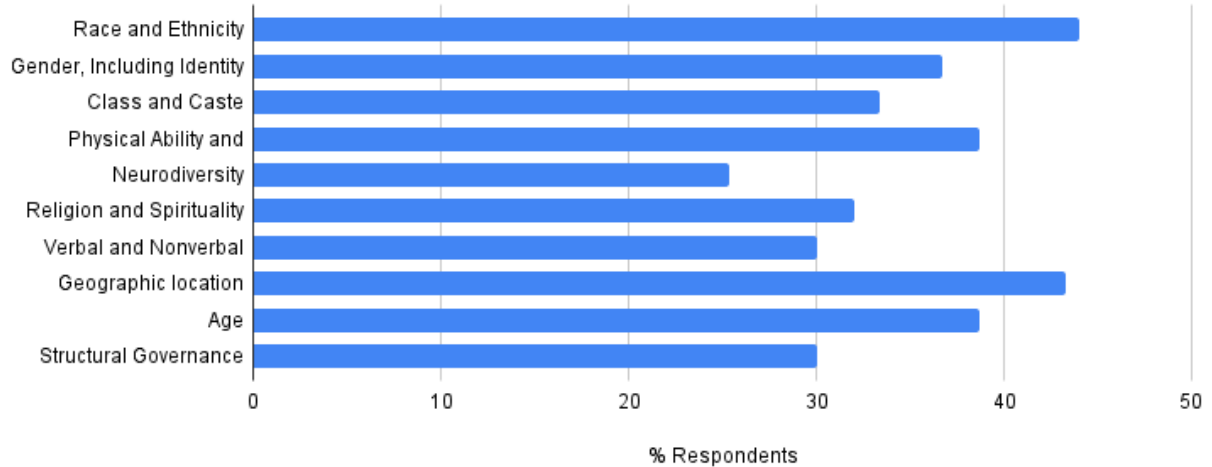
It should be noted that GLOBE participants responding to the survey are doing extensive work with respect to seeking out partnerships that can aid them in providing JEDI-EA sensitive pathways to participation in their activities. However, for half of the categories: Class and Caste, Neurodiversity, Religion and Spirituality, Verbal and Non-verbal Communication and Structural Governance, less than 50% respondents sought partnerships to overcome barriers.

While we believe some general standards and rubrics can be established with respect to GLOBE JEDI-EA “good community participant” standards, we recognize that standardization in partnership seeking does not lend itself to such an approach. Partnerships are built as a function of mutual benefit and interest over time. They are not JEDI-EA specific, but instead must involve the connection of JEDI-EA objectives to larger objectives for the relationship. They are subject to demography and locational constraints of the site and the adjacent community and institutional context. They may even be constrained by the structural impediments we referenced in the survey. We feel that the DEI Working Group can serve as a conduit here, based on inquiries by various GLOBE groups, for the building of useful partnerships that can have positive JEDI-EA impacts. The need for these could be revealed, for example, as groups do an assessment of their activities and structure relative to the JEDI-EA “good community participant” standards. They could then consult with the DEI Working Group as a liaison to groups and partners that might address the needs of the relevant GLOBE group.



### Question Concerning the Presence of Intentional Educative Processes Related to JEDI-EA

I have intentional processes that inform members of my GLOBE community about the ways bias and prejudice prevent full participation in these categories:

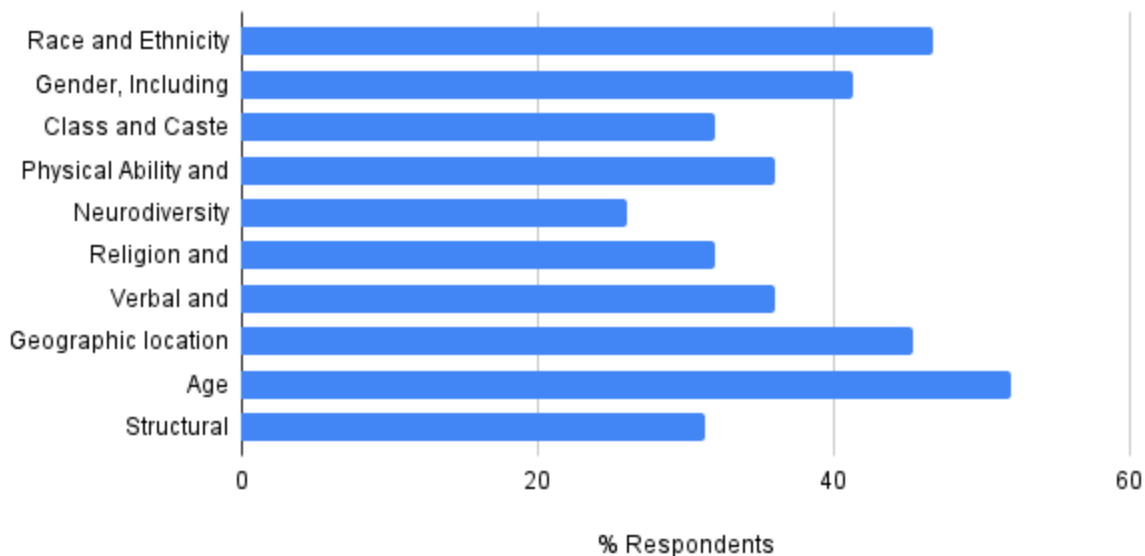


*Figure 6 illustrates the percentages of respondents who inform their GLOBE community how bias and prejudice prevent full participation in the JEDI-EA categories listed.*

There is a broad swathe of general educational work being done to familiarize members of GLOBE groups with JEDI-EA related matters. Yet, there are gaps identified in the data concerning GLOBE groups with respect to specific JEDI-EA categories. The results cut across a wide variety of categories. We believe that this flags the need for and the importance of the prior GLOBE DEI Task Force and the current GLOBE DEI Working Group. There are areas where increased educative efforts are in need and these bodies have as their primary charge the provision of tools, materials, resources, and best practice models that GLOBE groups can use to augment their internal processes as needed to accomplish JEDI-EA objectives. There is great potential for the results of the data on these questions to ultimately approach completion across all the categories as the Working Group does its work and as a JEDI-EA values, standards and assessment regime starts to be inculcated across the GLOBE system.

**Question Concerning the Association of JEDI-EA Assessment with Group Progress**

I measure (either formally or informally) progress in terms of participation of individuals inclusive of these categories:



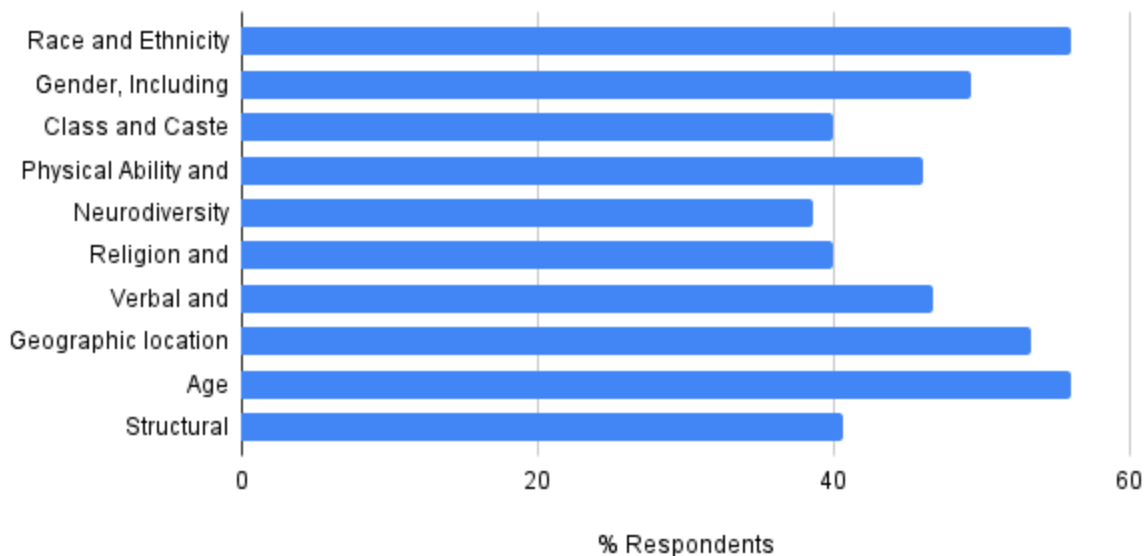
*Figure 7 shows percentages of respondents who measure participation progress of individuals inclusive of JEDI-EA categories listed,*

Consistent with the entire set of questions in this section of the assessment instrument, there is broad variation in JEDI-EA assessment and the extent to which it is incorporated into GLOBE groups' sense of progress. Overall, there is as expected a great deal of coverage of categories and a general perception that progress with respect to them is central to collective progress. But as also expected there are some groups which do not include the categories in their consideration of progress and assessment. We suspect that there are two dimensions to this problem, cases where a particular category was not defined or identified and therefore not assessed, and cases where there is a lack of clarity about how a particular category or progress within it is to be assessed and any associated problems to be addressed. The DEI Working Group can play a major role in the development of methodological tools for assessment, along the lines of this instrument, which can aid groups in more broadly keeping track of their progress with respect to JEDI-EA categories.



**Question Concerning the Review of Communication and Products for Appropriate Messaging**

I review communication and products for appropriate messaging in relation to the following categories:



*Figure 8 shows percentages of respondents who review communication and products for appropriate messaging related to the JED-EA categories listed.*

Reviewing communication and products for appropriate messaging were done by fewer than 50% of the respondents for most of the categories except for Race and Ethnicity, Gender and Gender Expression, Geographic Location, and Age. We believe this is clearly an area that will be addressed by the DEI Working Group's quest to develop JEDI-EA "good community participant" standards for GLOBE in that it will serve as a reminder to the members of our GLOBE family that such review is important to assure that we are being as inclusive as we can be and that our messaging and materials are not themselves serving as potential impediments to participation.

### **Open-Ended Responses**

We attempted to facilitate important additional input from GLOBE participants by including open-ended responses designed to (a) provide a mechanism for capturing those elements of JEDI-EA not included in the specific survey questionnaire and (b) to provide a mechanism for respondents to reflect on the document, the process, and the larger JEDI-EA mission. The comments that we received, according to these open ended responses, can be broadly characterized as falling into five distinct categories: (1) The desire for more information about certain JEDI-EA related matters, (2) The desire for improvement in the JEDI-EA related delivery of certain GLOBE programs and services, (3) The desire for improvement in the quantity and quality of communication about best practices within GLOBE related to JEDI-EA, (4) Suggestions for new areas of methodology for potentially making an impact on collective JEDI-EA goals and objectives, and (5) Critiques related to the general thrust towards expanding JEDI-EA efforts. We want to examine each of these in some detail in turn.

#### *Requests for More JEDI-EA-Related Information*

There were some comments indicating a desire on part of some respondents to get more information from the DEI Working Group about some of the categories of DEI noted and identified in the survey. Respondents asked whether we could do more collective education on what they felt were unfamiliar or less familiar categories of JEDI-EA like neurodiversity, class, caste, and upon variances involving those who engage and communicate via non-verbal languages. We intend to refer these recommendations to the DEI Working Group, which has expressed an interest in creating a web facility that would provide critical and relevant definitions for JEDI-EA categories, along with some representative examples.

Others suggested that we may want to parcel out more specificity related to class when looking at the United States, where the term is less used than a more general one like “socioeconomic differences.” Again, we will pass these recommendations along to the Working Group so that they can take such nuance into consideration as they compose and assemble materials on the subject.

#### *Requests for More Effective Programmatic Delivery*

Many respondents, very familiar with GLOBE programs and efforts, had pointed constructive critiques on how some of these were and are “missing the mark” in a JEDI-EA aspect. For example, it was noted that the main GLOBE web site, from the perspective of some, took careful pains to highlight the contributions by members coming from and representing diversities of “race” and “gender,” but not so much in the other categories that were mentioned in the survey. We believe these can be highlighted, both in the Working Group web presence as it develops and in that part of the JEDI-EA standards the Group will share with the larger GLOBE collective.

Respondents spoke about the economic challenges associated with attending GLOBE events and asked that perhaps some additional provisions might be made for those with limited funds, making it possible for them to cover expenses associated with housing and food and other items that would

facilitate their involvement with and successful engagement in GLOBE activities. We believe that this is a point of research for the Working Group, with the goal of discovering what the current practices are with respect to such economic provision as well as what potential constructive changes might be made in this area.

The media release form came under criticism for creating certain difficulties for participants in GLOBE activities. It was unclear to us from this very preliminary study what exactly was generating the difficulty or what the nature of the specific difficulty was, but clearly if the document itself is preventing the onboarding of participants, this should and must be the object of some investigation and hopefully a more inclusive set of revisions by the Working Group.

International GLOBE participants brought up the matter of the centrality of English language in GLOBE programming. The DEI Working Group is working right now on a Translation Initiative that has as its goal to address this systemic, macro level problem in a manner that will facilitate the expansion of understanding and accessibility to our complete GLOBE family, and in languages familiar to them. Included in the dialogue with the respondents was there since there is a pressing need for multi-lingual GLOBE materials, inclusive of technological applications.

Other comments related to the importance of making sure that GLOBE accessibility to the broadest possible global audiences is central to our collective JEDI-EA efforts.

#### *Requests for Improved Communicative Interchange Related to GLOBE DEI Practice*

Many respondents shared with us their personal knowledge of practices within GLOBE groups that contributed positively to JEDI-EA related outcomes, and they thought it was important that we gave voice to these in our various platforms in the form of testimonials, that could serve as representative examples and as guideposts for others within the organization. One respondent for example, mentioned ways in which women's participation was incentivized within their GLOBE group and noted that that was something that could be highlighted and replicated if disseminated as a representative example for others. We suspect that such insights might also be relevant for areas where it is participation by men that is missing. Another comment involved an initiative to organize teachers into a collective to exchange ideas about GLOBE experiences with JEDI-EA. GLOBE summer camps and expeditions were generally mentioned as "shining lights" as was the consideration of certain principles of "Universal Design" at GLOBE sites. Others mentioned the role of "outside" activities and "hands-on measurement" as helpful both to non-native speakers and to special needs student communities. The collaborative sharing of experience in general was considered important as well as the strategic use of comparative national data in work, the latter making GLOBE more interesting to students from international backgrounds.

There was, in addition, a more general argument that "hints" and "suggestions" and other aids to the process of moving forward with respect to JEDI-EA were important. We believe that the forthcoming Working Group web facility will go a long way towards providing a forum for the highlighting of testimonials and "best practices" as well as "hints" and "suggestions," related to JEDI-EA. Webinars were explicitly suggested as effective means of facilitating such communication.

Some reinforced a point we had heard about anecdotally and it was that "buy-in" and greater levels of participation and inclusion were aided by making the materials and the protocols and activities

substantively relevant to local communities. We think and will be recommending to the Working Group that there is much progress to be made in fusing many of the goals and objectives that we have in JEDI-EA with community-based research and citizen science initiatives.

#### *Suggestions for Proposed GLOBE Innovations to Facilitate JEDI-EA Related Progress*

Several comments proposed that we take advantage of the current situation in which online and distance education have been made central to educative work. They suggested that continuing to facilitate such tools and approaches would contribute to JEDI-EA advancement, such as, for example, providing those with disabilities more effective means of onboarding to our programs. It is believed that online and distance vehicles for outreach have a special potential for increasing overall participation across all the various JEDI-EA categories.

Individual respondents suggested that it was important to standardize the practice of inviting relevant local speakers to engage in GLOBE activities. It was also suggested that GLOBE might consider expansion specifically to schools with larger proportions of students of color.

One series of comments prioritized the importance of onboarding girls to science and doing so by highlighting examples of prominent women in science.

#### *Constructive Criticism Pursuant to GLOBE JEDI-EA Efforts*

We expected and received some constructive criticism and we thought it important to try to delineate areas where we thought the criticisms had merit and required clarity on our part and areas where we might perhaps disagree for legitimate reasons. One set of comments were really an advocacy for the ideology of individualism. They argued that acknowledging social categories like “race” or class or gender, effectively undermined the view of the individual GLOBE student or teacher or community member as such. We endorse the view that each member of GLOBE worldwide, whatever role they play, is a unique human being, with merit as such. Yet, we recognize that social constraints that are NOT individual or particular to person can make one’s path to GLOBE participation or full and effective participation therein more of a challenge. Our goal not the subversion of the recognition of the individual merits of members of our constituency, but rather the alleviation, to the extent possible, of impediments to participation in GLOBE. We desire a GLOBE where individuals can effectively actuate personal potential in the pursuit of scientific knowledge for the good of themselves and us all.

Another set of arguments dealt with the purported “innocence” of youth with respect to JEDI-EA topics, arguing that a student “child” as such, is not aware of these types of things and that perhaps, in exposing them to these ideas, we subvert their development in some way. The argument is that we may ourselves be introducing an impediment to their participation in GLOBE. We respond to this by saying that we agree that children or youth more generally should be treated as such. Yet, research shows us that children are affected by a myriad of the JEDI-EA factors we are calling attention to, regardless of the nature of the pursuit (Afolayan, 1994). For example, a youth who comes from a family which cannot afford access to education or materials or transportation as readily as another experiences disadvantage not of their own making, which we might be able to help alleviate. We as well as they are beneficiaries

when they learn, engage, and grow intellectually towards the building of a better collective human future for us all.

A third set of arguments focused on the nature of science itself and the fact that scientific data and analysis in the most ideal circumstances are “objective” and “neutral”. Students, faculty, and others are drawn to GLOBE out of pure intellectual curiosity. Indeed. We agree. For this reason, we believe it is important that that initial curiosity, that spark of invention, that motive towards discovery that makes what we do collectively so great, not be mired or soiled in any way by any barriers to participation not about science itself but from society, people, and challenges from other quarters.

One of the liabilities of JEDI-ED discussion is that some misinterpret “indifference” to the categories or learned ignorance about them as “being progressive.” Scientific literature suggests that precisely the opposite is often the case. What is frequent characterized as personal “indifference” is actually a case of what is more commonly understood in social psychology as the “bystander effect.” It refers to the observed tendency of individuals not to react to a set of circumstances that are hurting someone else in their environment, because of the existence of a general climate of toleration of such behavior by most social actors in that site (Emeghara, 2020). On an individual level, engaging humans simply as humans is laudable, but it is problematic for social institutions or programs or systems to act as if there are no socially constructed categories which can interfere with effective participation.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Summary**

At the end of this process, we believe we have two important “takeaways.” First, we believe we have contributed constructively to a generalizable model for JEDI-EA assessment, not just for GLOBE, but for other organizations similarly situated. Second, and more specifically to GLOBE itself, we believe that we have provided some useful information for GLOBE units and for the DEI Working Group to continue moving forward on progress in this area based on a real measurable set of strengths and some delineated areas where further work is necessary.



Nikitah Okembe-RA Imani Chair of the GLOBE DEI Working Group, Professor of Black Studies (University of Nebraska-Omaha, USA)

Juan Felipe Restrepo Mesa Vice Chair of the GLOBE DEI Working Group is Knowledge Management Chief, Colegio Montessori de Cartagena, Colombia.

Marina Pavlić Member of the GLOBE DEI Working Group, External Associate in Prirodoslovna i grafička Škola Rijeka, Hrvatska (Science and Graphics Arts School Rijeka, Croatia)

Elena Bautista Sparrow Member of the GLOBE DEI Task Force (former); Research Professor of Soil Microbiology; Education and Outreach Director at the International Arctic Research Center; Alaska GLOBE Partnership Founder and Director; PI, NASA Arctic and Earth SIGNs project (University of Alaska Fairbanks, USA)

Julie Malmberg GLOBE Project Manager, Education and Outreach Team Lead (USA)

Katie Chapman GIO Liaison to the DEI Working Group, GIO Administrator (USA)

Rosalba Giarratano, NASA Liaison to the DEI Working Group (USA)

**Data Visualization Assistance Provided By**

Katie Spellman- Research Assistant Professor of Ecology and Science Education, International Arctic Research Center; Team member, Alaska GLOBE Partnership, Co-PI, NASA Arctic and Earth SIGNs project (University of Alaska Fairbanks, USA)

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