

National Aeronautics and  
Space Administration



# EXPLORE SCIENCE

## Division of Planetary Science

**Meagan Thompson**

Analysis of self-reported demographics for PSD R&A

4/28/2002

Planetary Science IDEA Con



# Definitions and Structure

R&A – what do we mean?

- Mission R&A – includes R&A associated with missions, like Data Analysis Programs (DAPs) and Participating Scientist and Guest Investigator programs (e.g. New Frontiers, Discovery Data Analysis Program)
- Core R&A – Research programs that aren't tied to a mission funding line (e.g. Solar System Workings, Emerging Worlds, and Astrobiology research programs)
- Technology R&A – Research programs that are geared towards developing technology (e.g. PICASSO, MatISSE, COLDTech)

Structure of presentation: Will be showing the overall for R&A, spanning ROSES 2014-2020, then will show the same data broken down by the R&A categories to the left. In circumstances where data were small, we opted to show bulk analysis for the whole ROSES year range.

We will be looking at:

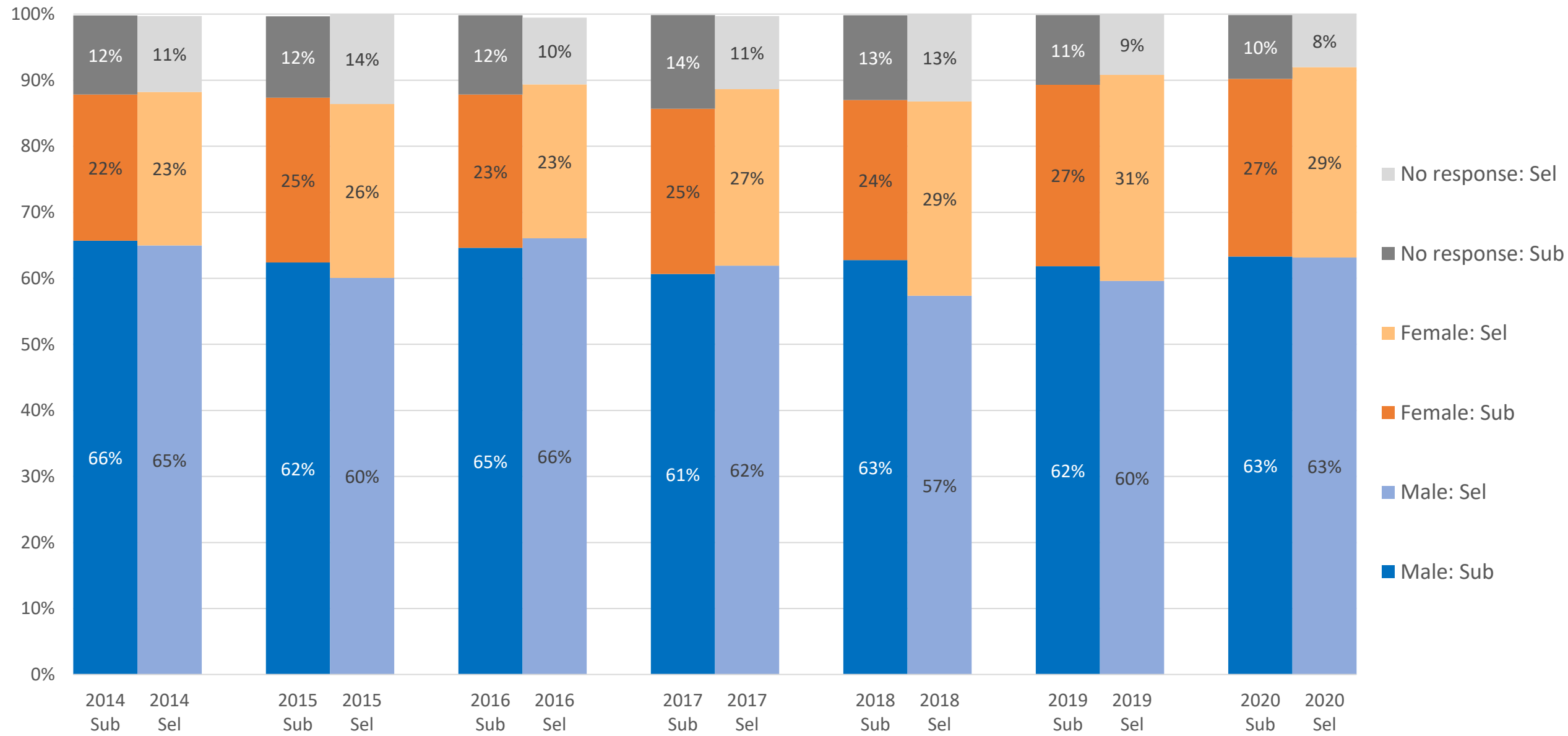
- Gender (binary)
- Ethnicity
- Race
- Ability



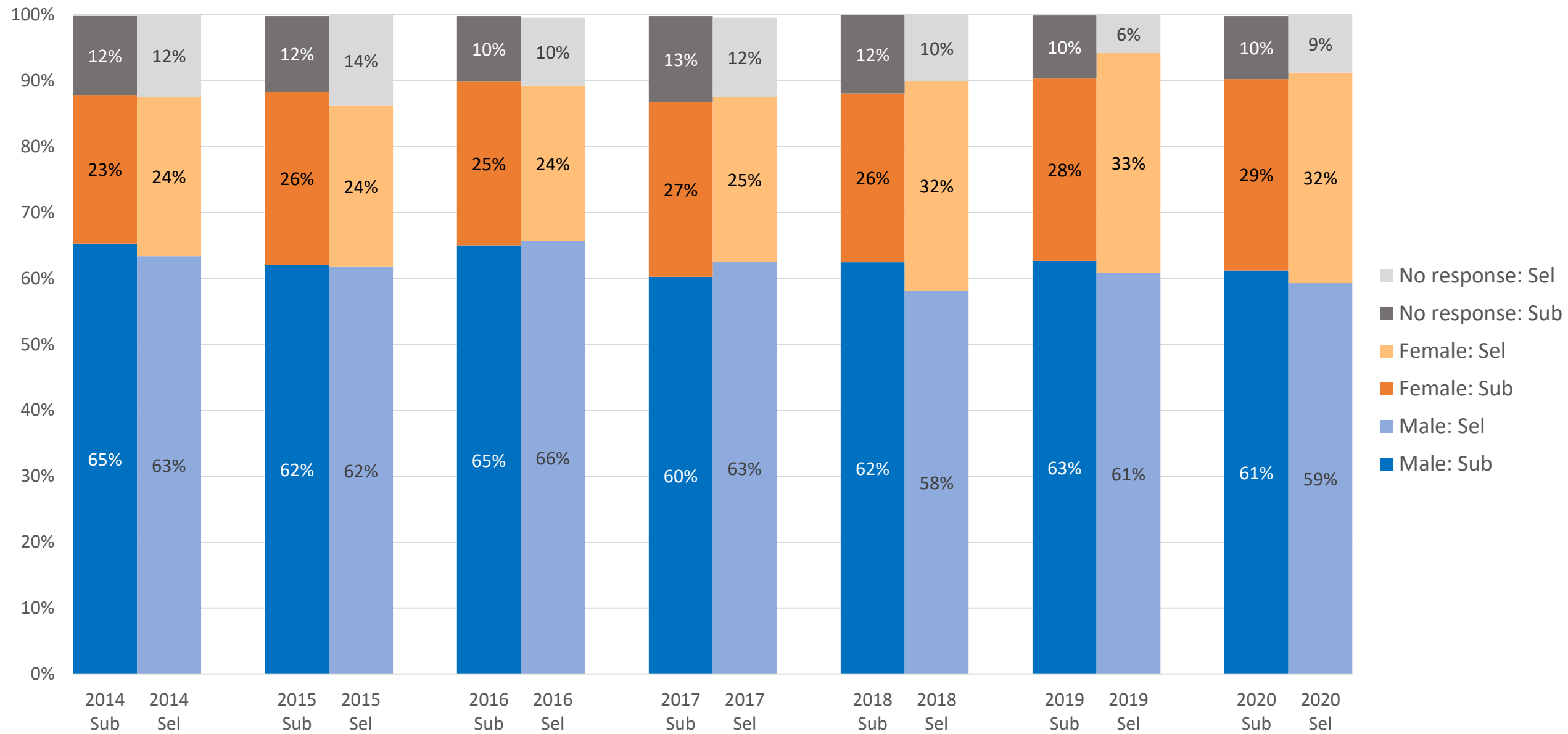
The background of the slide is a cosmic image featuring a dark space filled with stars. A prominent blue nebula is visible in the upper right, while a large, glowing orange and yellow nebula occupies the lower half. The word "Gender" is centered in a white sans-serif font on a light blue horizontal band.

# Gender

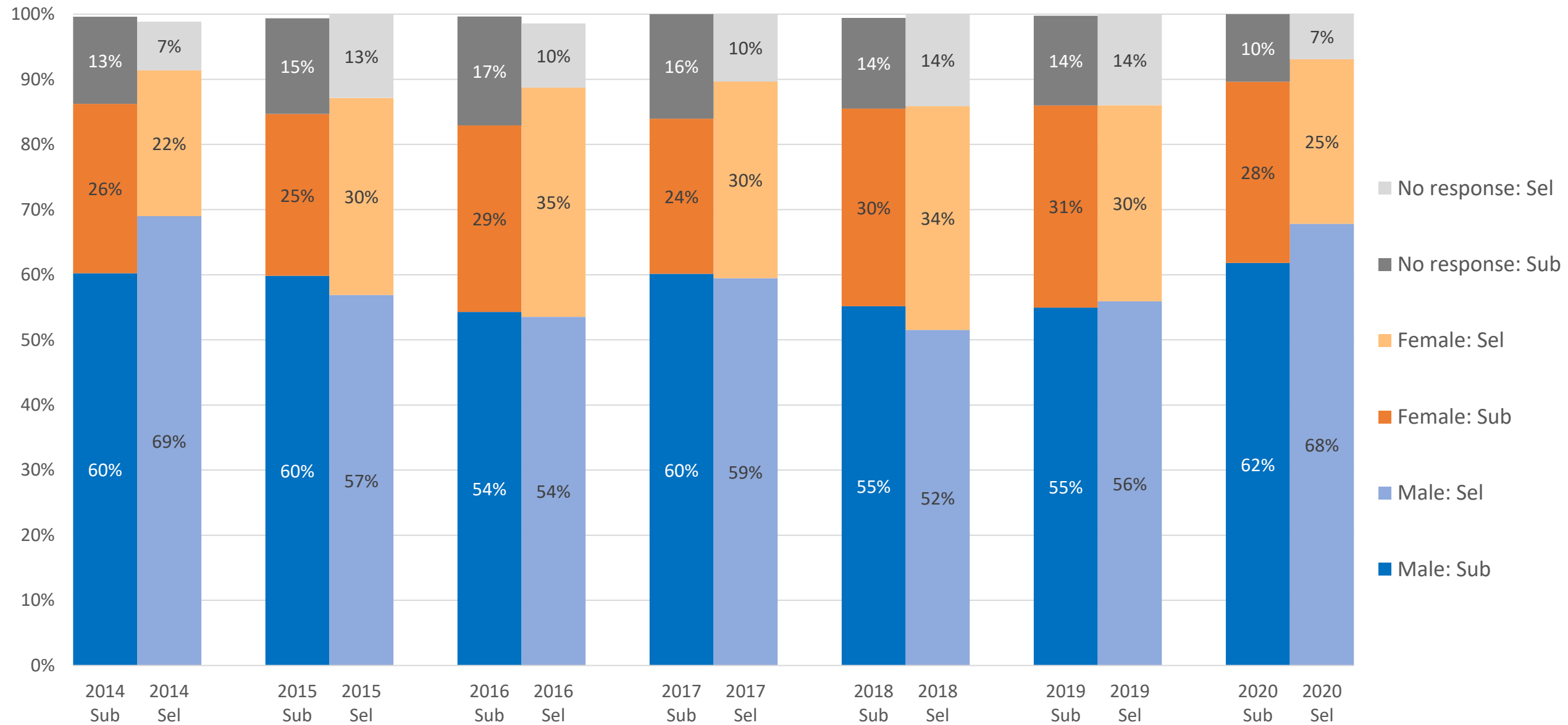
# 2014 - 2020 PSD All R&A: Gender



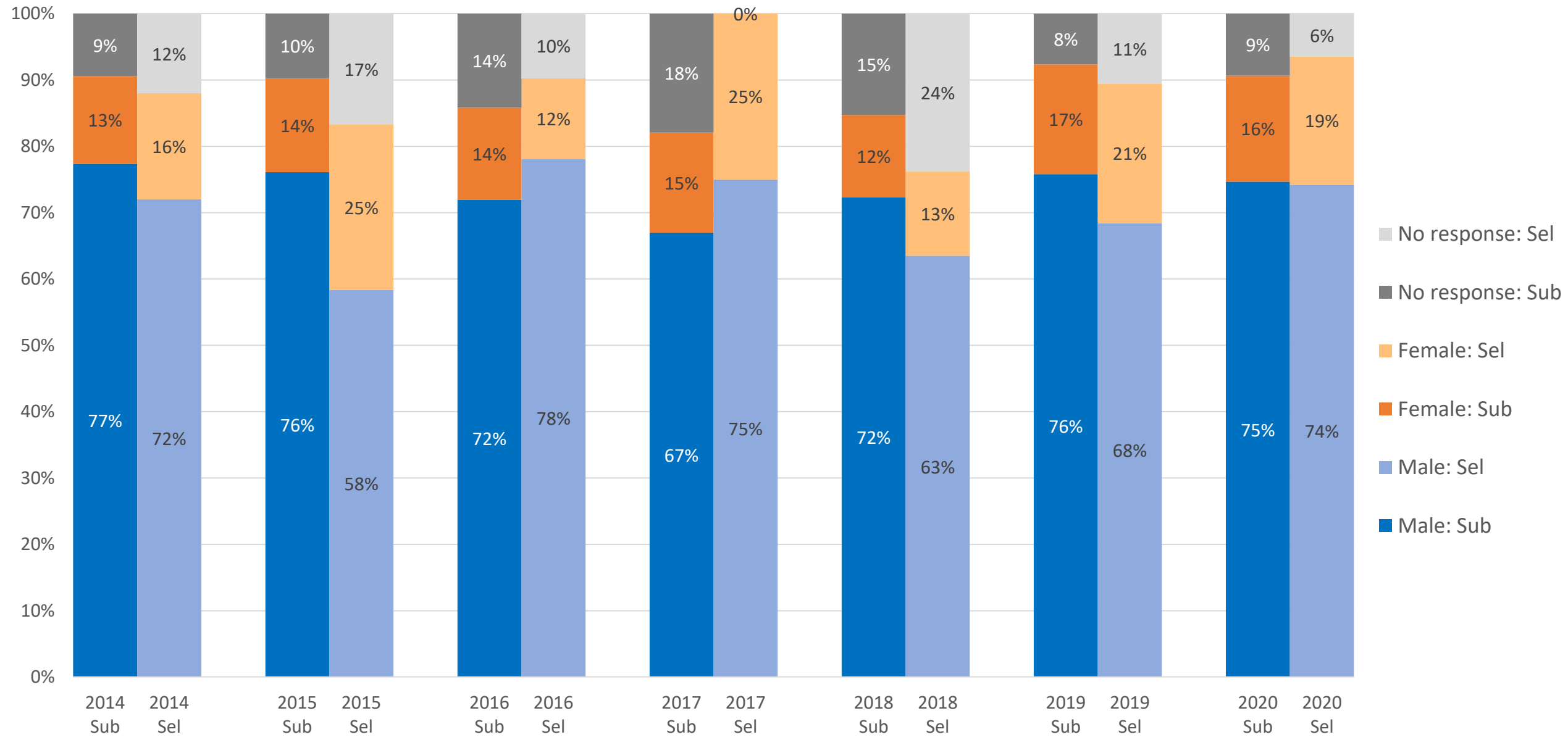
## 2014 - 2020 PSD Core R&A: Gender



## 2014 - 2020 PSD Missions: Gender



## 2014 - 2020 PSD Tech: Gender



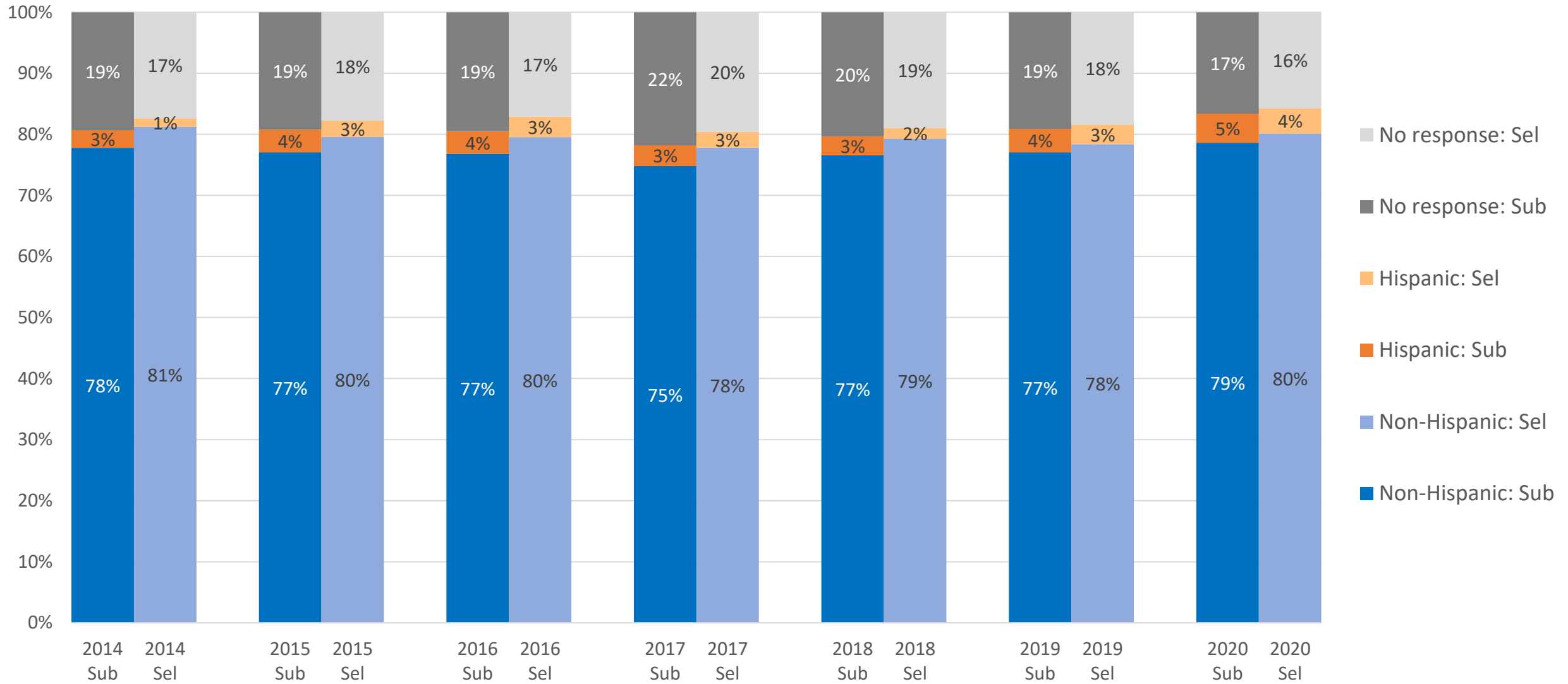


The background of the slide is a cosmic image featuring a dark space filled with stars and nebulae. The top half shows a blue nebula with bright star clusters, while the bottom half transitions into a green and orange nebula. A light blue horizontal band serves as a backdrop for the title.

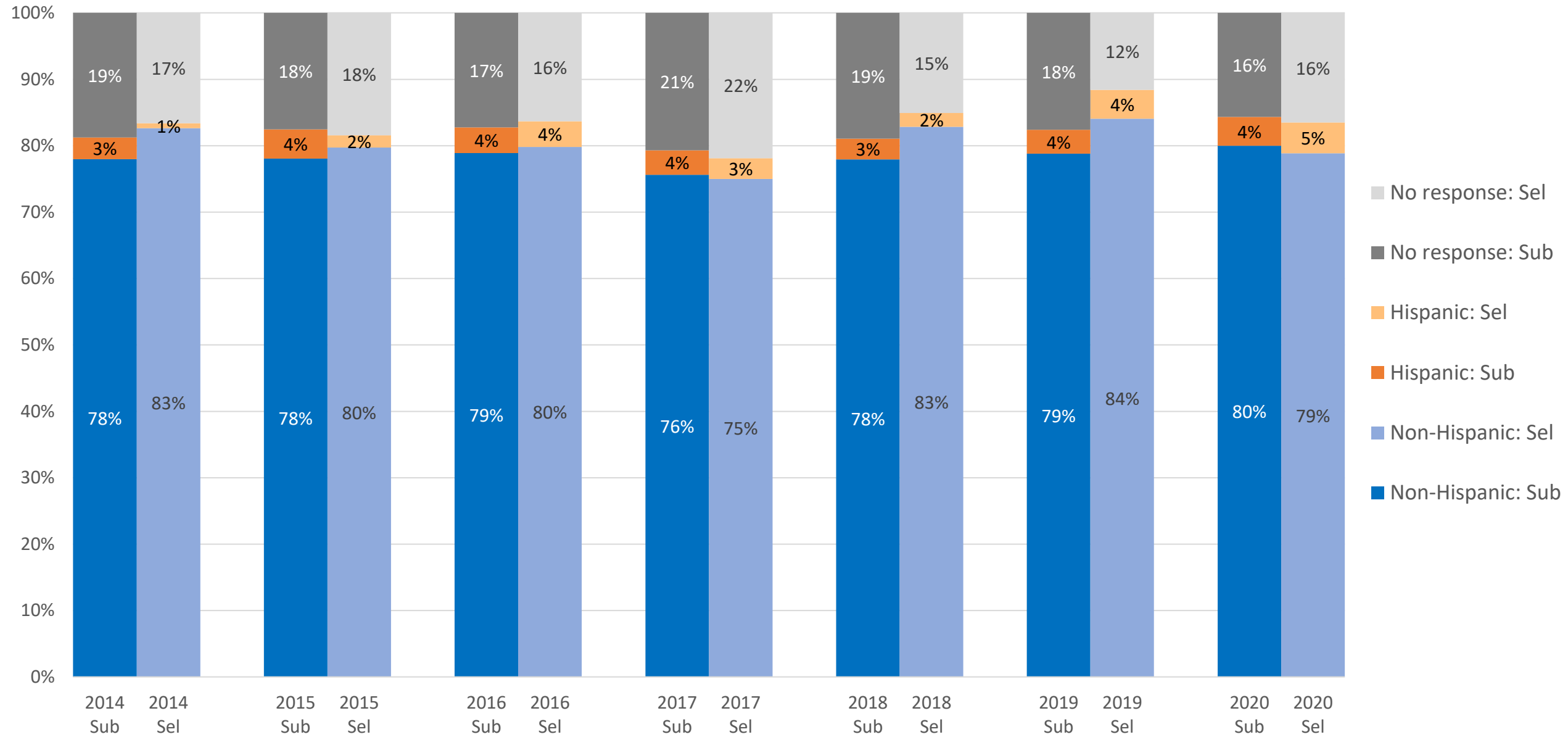
# Ethnicity



## 2014 - 2020 PSD R&A: Ethnicity

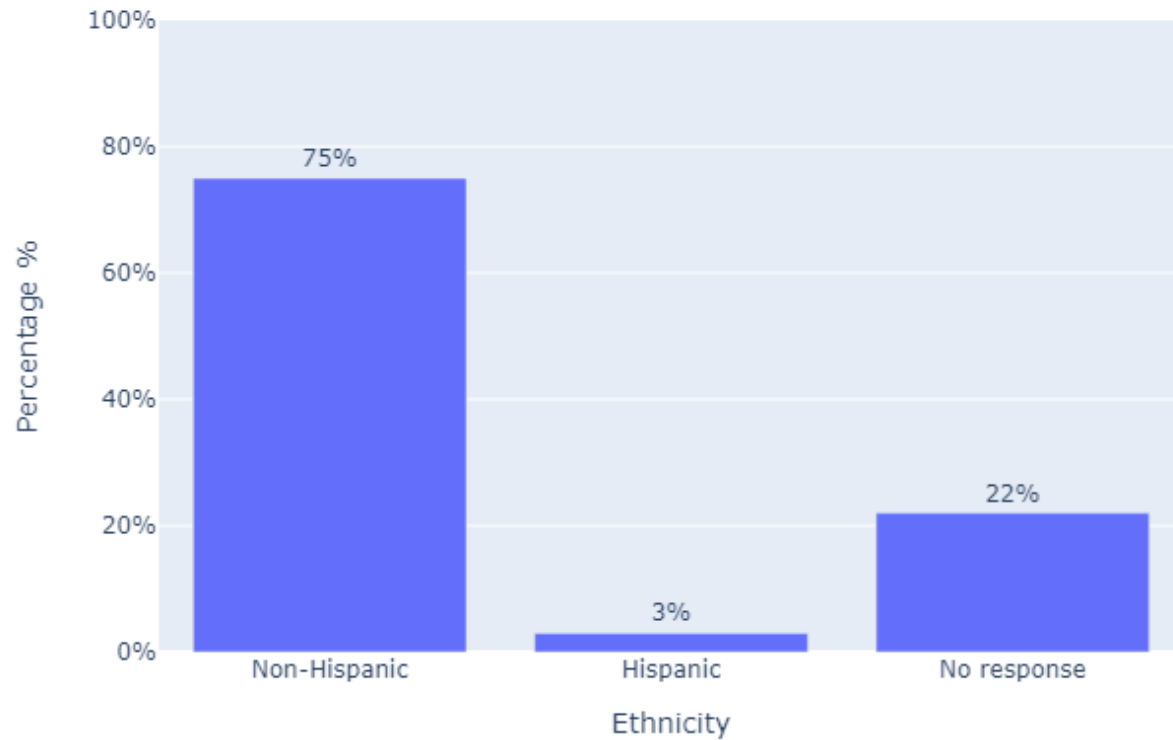


## 2014 - 2020 PSD Core R&A: Ethnicity

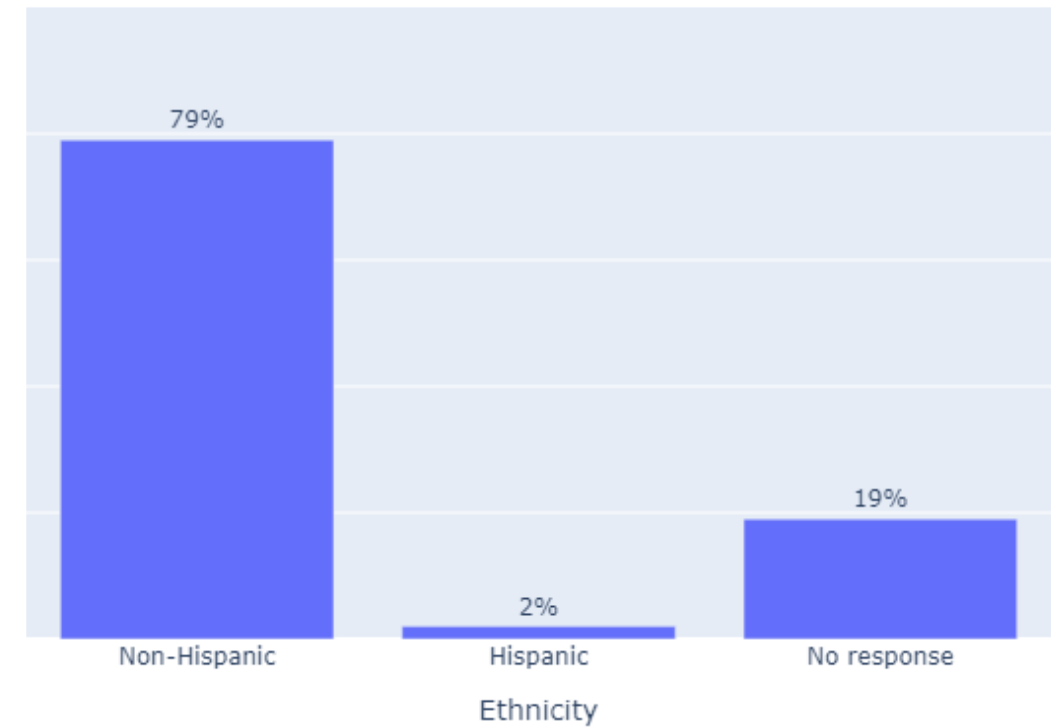


# PSD Mission: PI Ethnicity Bulk Comparison

**Ethnicity of Submitted Planetary Mission R&A PIs**  
N = 2584 | Missing data = 8 | 2014 - 2020



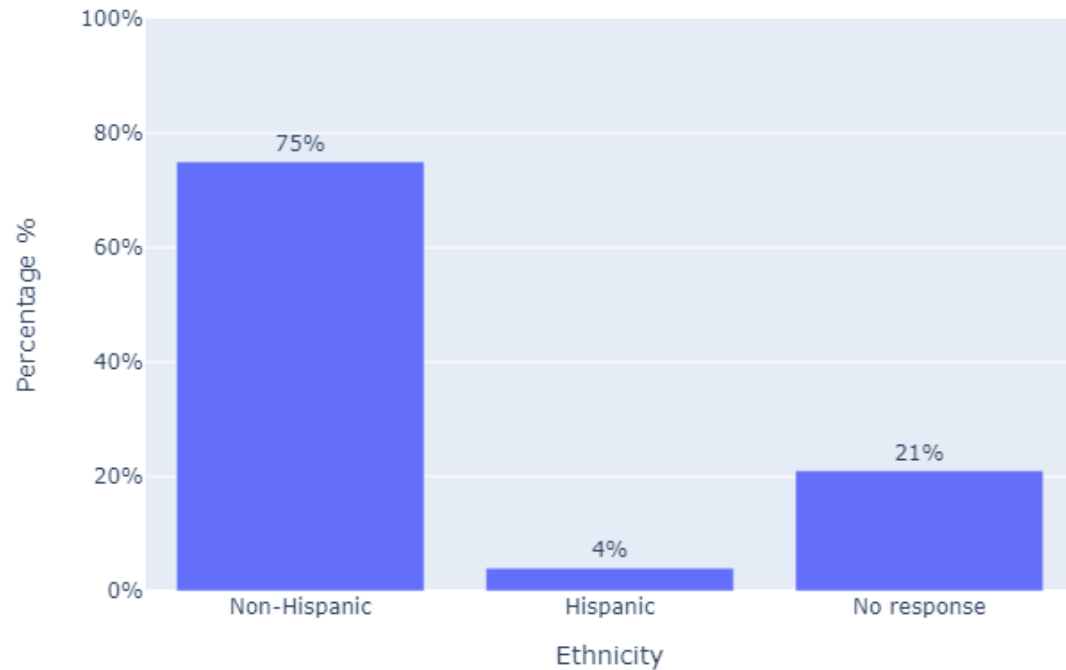
**Ethnicity of Selected Planetary Mission R&A PIs**  
N = 644 | Missing data = 0 | 2014 - 2020



# PSD Tech: PI Ethnicity Bulk Comparison

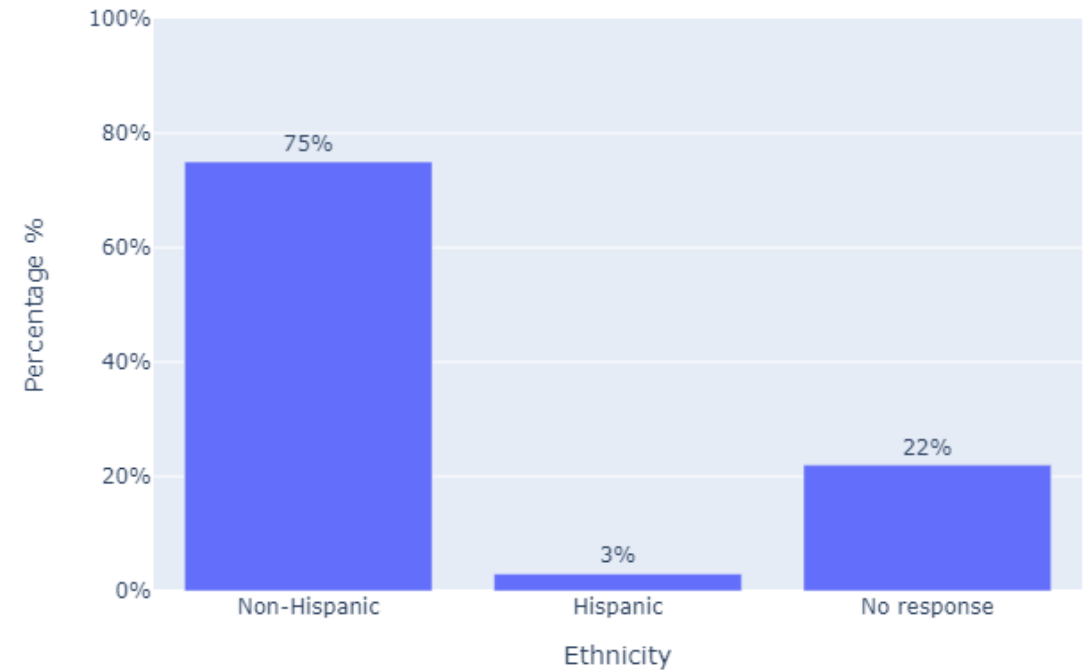
**Ethnicity of Submitted Planetary Technology PIs**

N = 1448 | Missing data = 2 | 2014 - 2020



**Ethnicity of Selected Planetary Technology PIs**

N = 244 | Missing data = 0 | 2014 - 2020



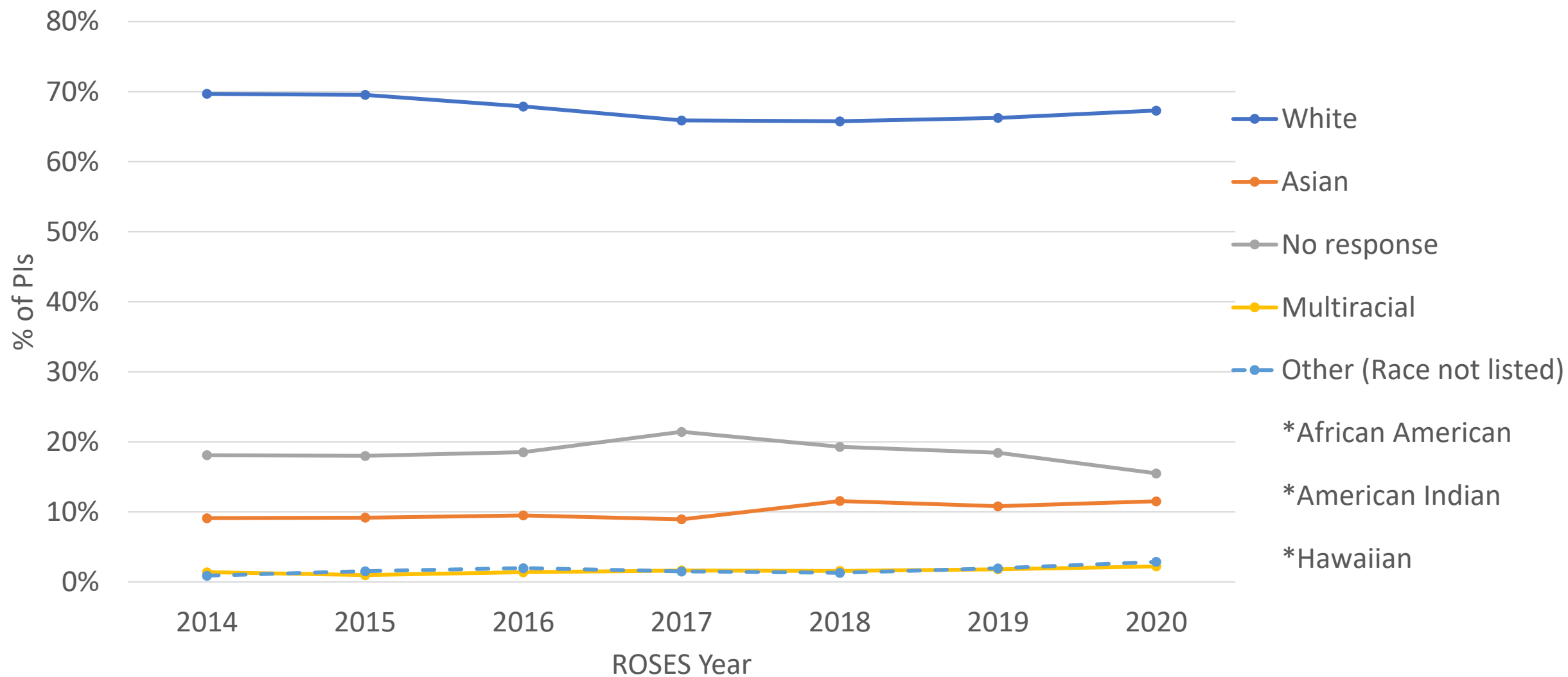


The background of the slide is a cosmic image featuring a dark space filled with stars. A prominent blue nebula is visible in the upper right, while a large, glowing orange and yellow nebula occupies the lower half. The word "Race" is centered in a white serif font on a light blue horizontal band.

# Race

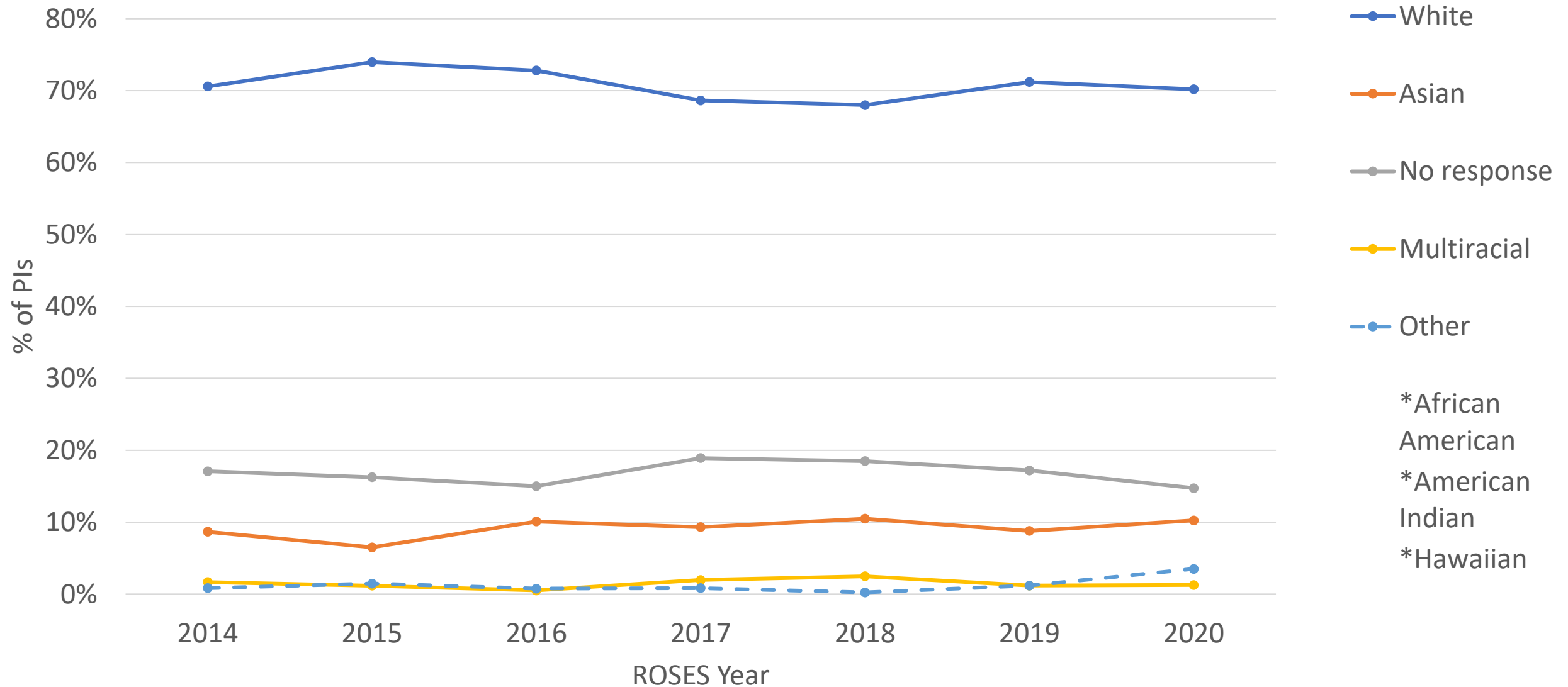
## 2014 - 2020 PSD R&A PI Race: Submitted

\*Race categories with < 1% of submitted PIs are suppressed



## 2014 - 2020 PSD R&A PI Race: Selected

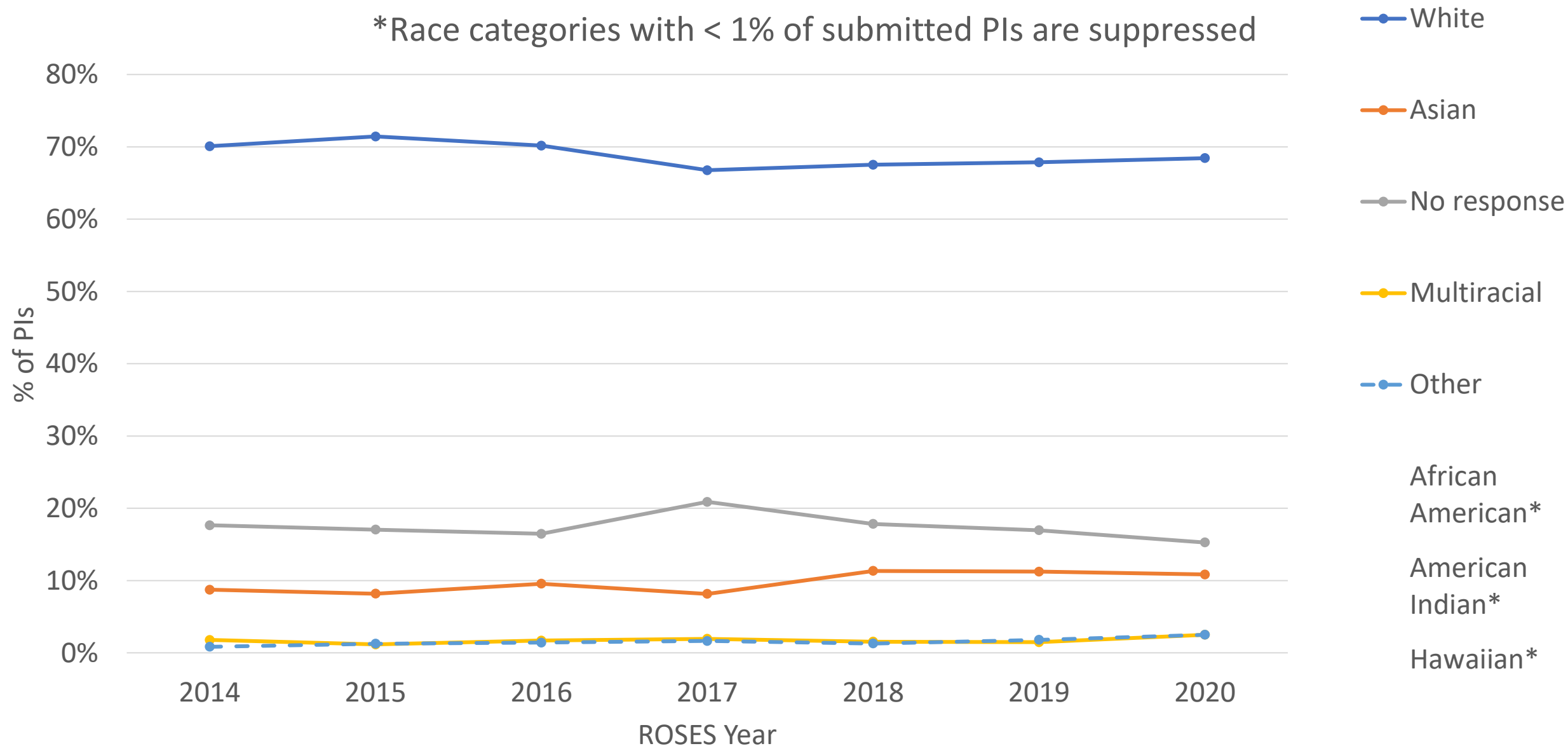
\*Race categories with < 1% of submitted PIs are suppressed



\*African  
American  
\*American  
Indian  
\*Hawaiian

## 2014 - 2020 PSD Core R&A PI Race: Submitted

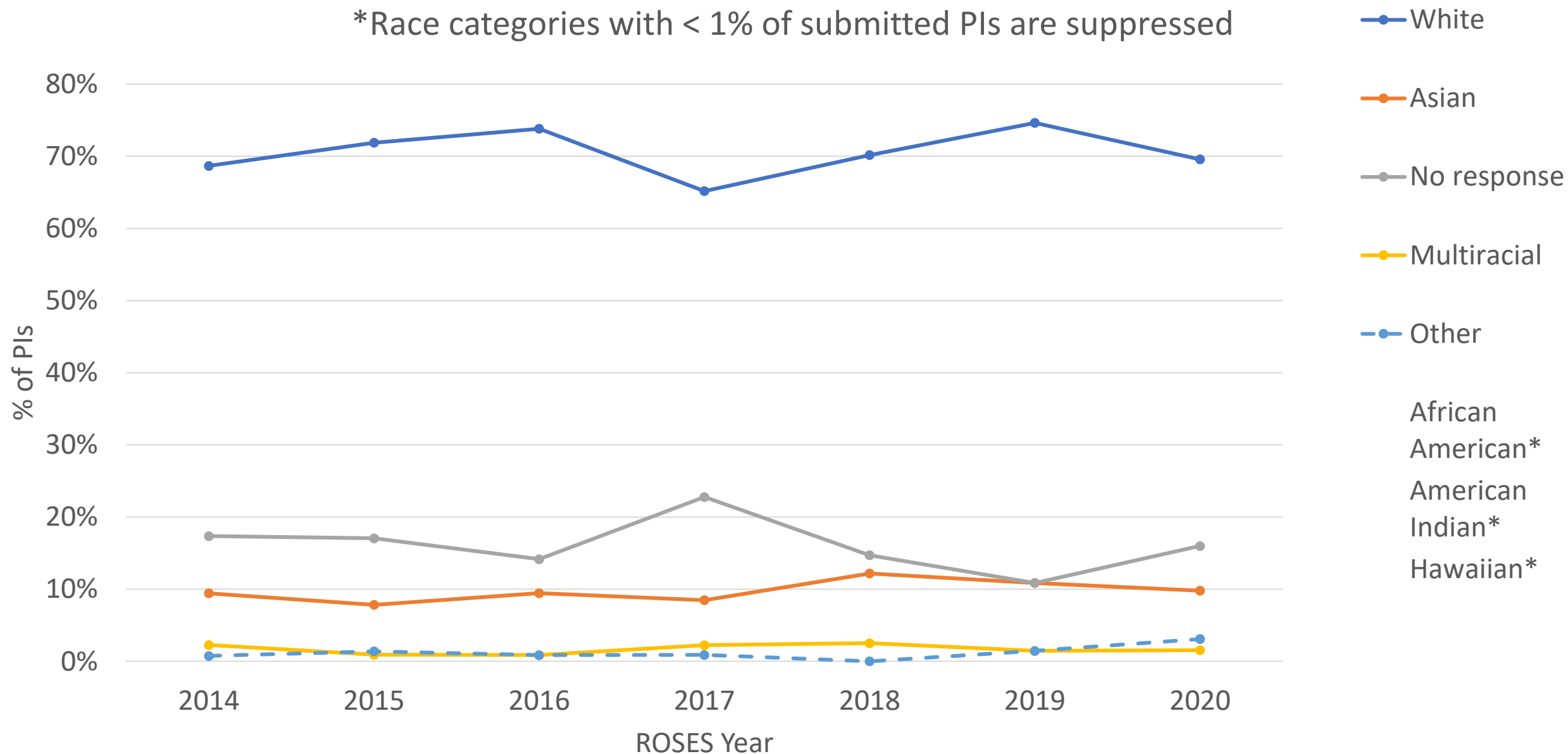
\*Race categories with < 1% of submitted PIs are suppressed





## 2014 - 2020 PSD Core R&A PI Race: Selected

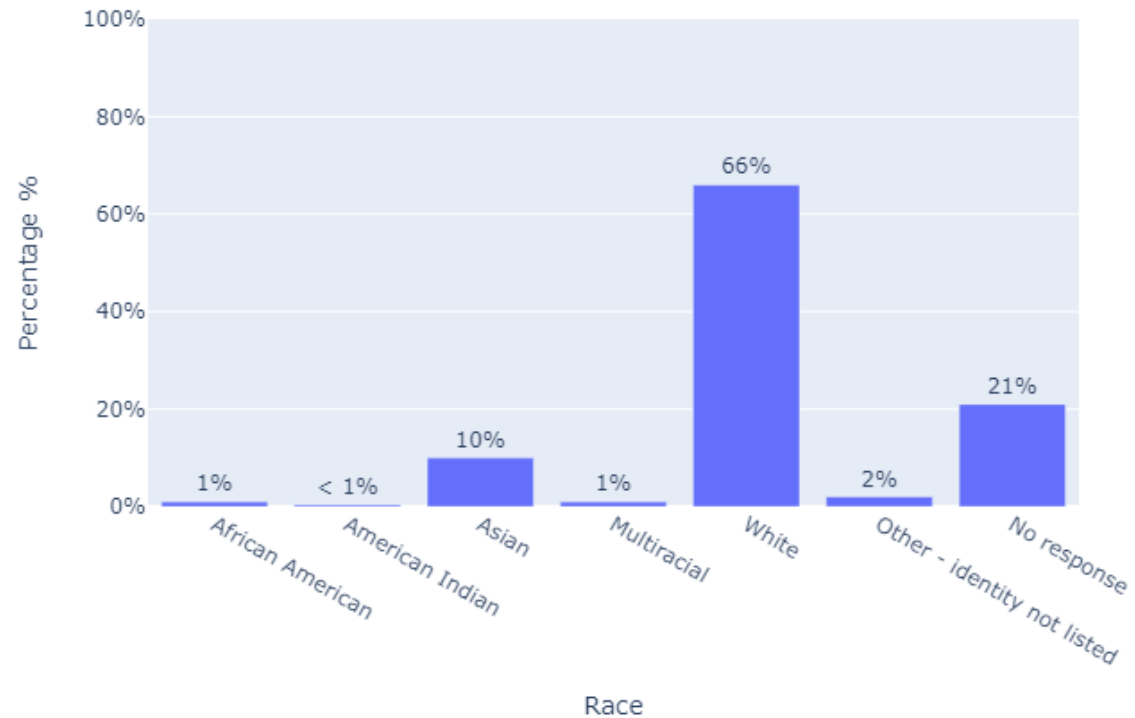
\*Race categories with < 1% of submitted PIs are suppressed



# PSD Mission: PI Race Bulk Comparison

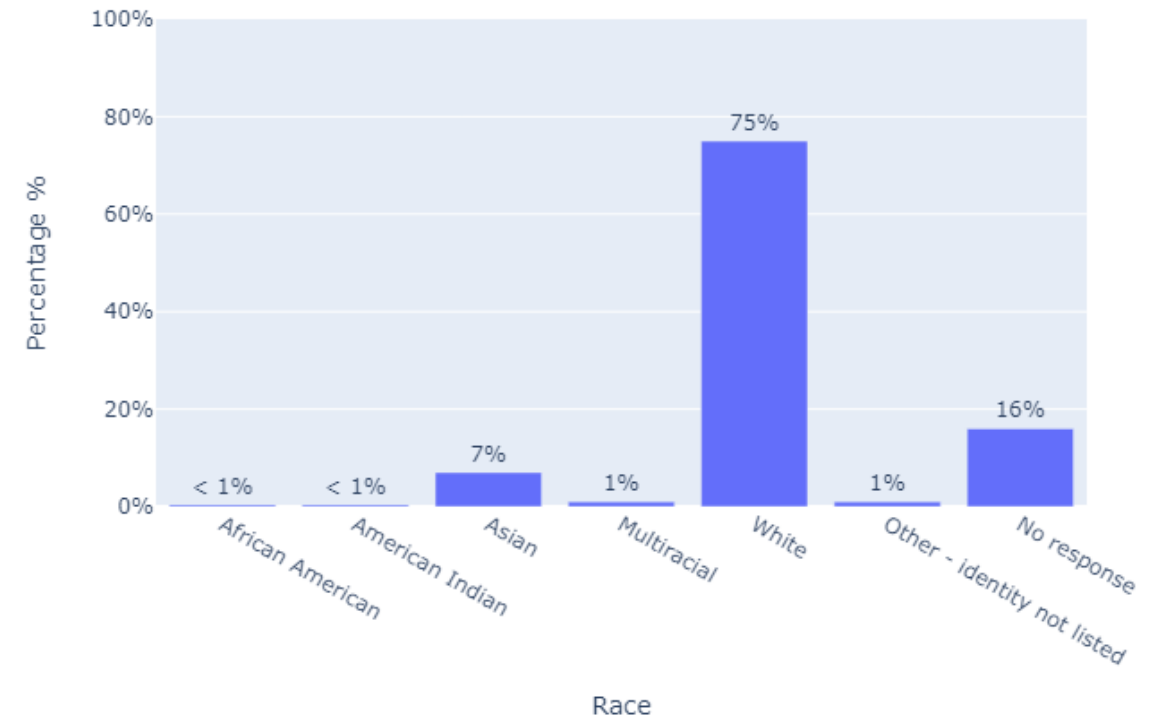
**Race of Submitted Planetary Mission R&A PIs**

N = 2584 | Missing data = 8 | 2014 - 2020



**Race of Selected Planetary Mission R&A PIs**

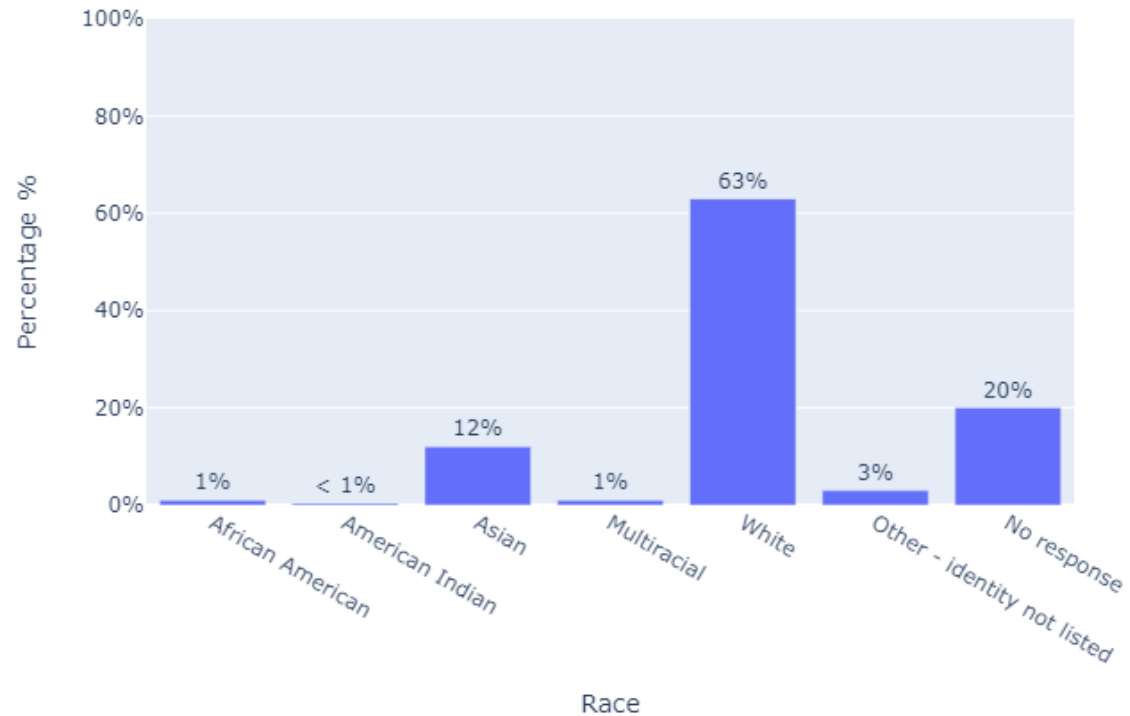
N = 644 | Missing data = 0 | 2014 - 2020



# PSD Tech: PI Race Bulk Comparison

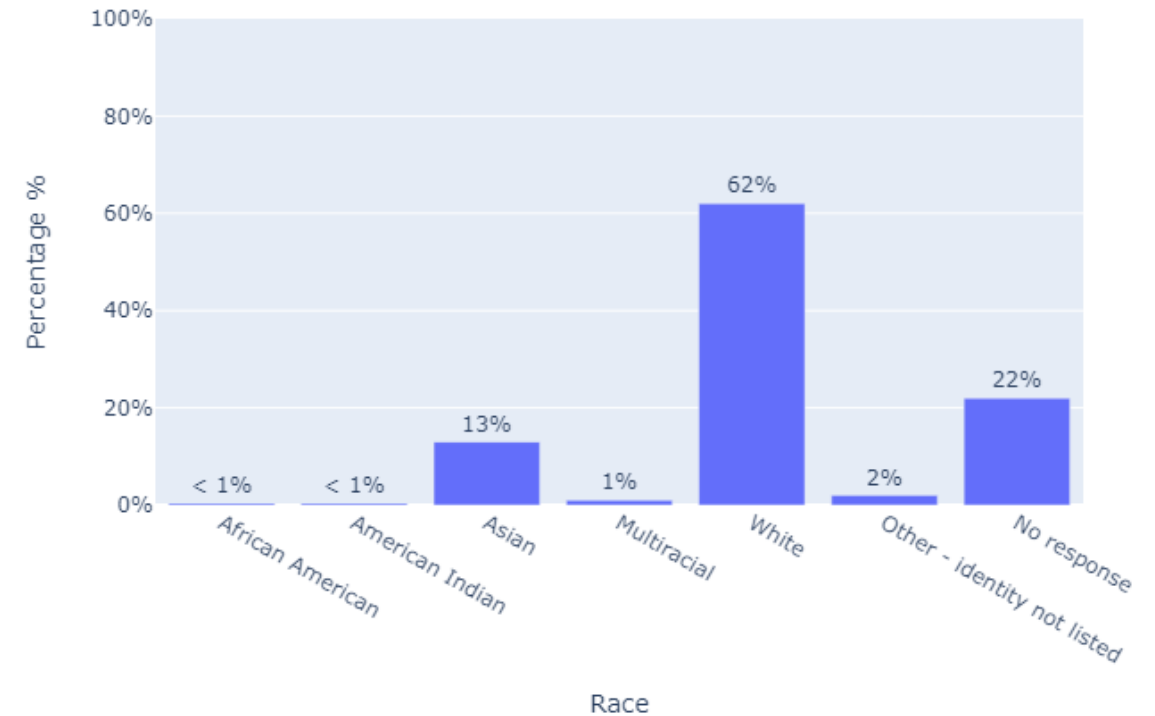
**Race of Submitted Planetary Technology PIs**

N = 1448 | Missing data = 2 | 2014 - 2020



**Race of Selected Planetary Technology PIs**

N = 244 | Missing data = 0 | 2014 - 2020

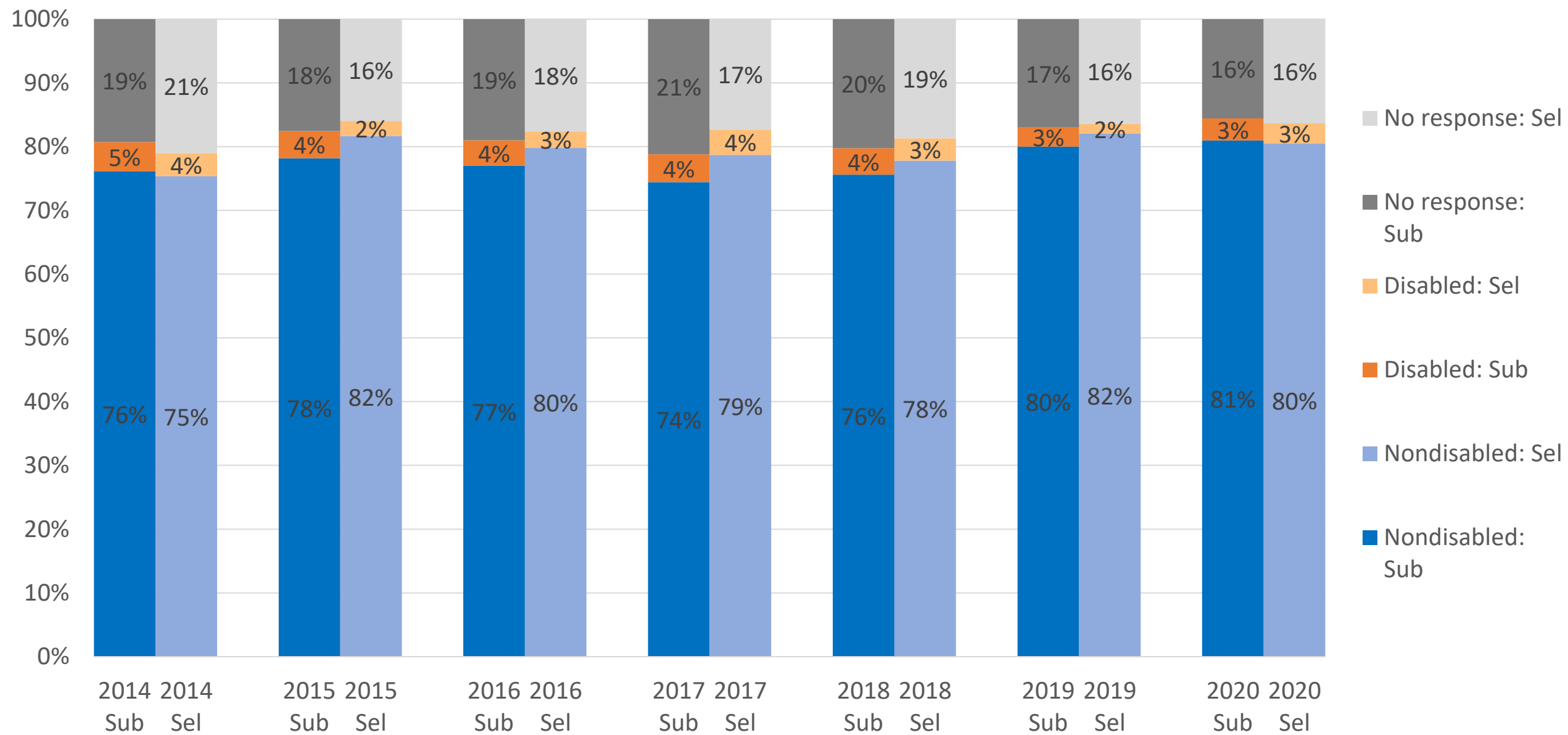


The background of the slide is a cosmic image featuring a central light blue band. Above and below this band are nebulae; the top one is primarily blue and white, while the bottom one is a mix of orange, yellow, and green. Numerous stars of varying brightness are scattered throughout the scene.

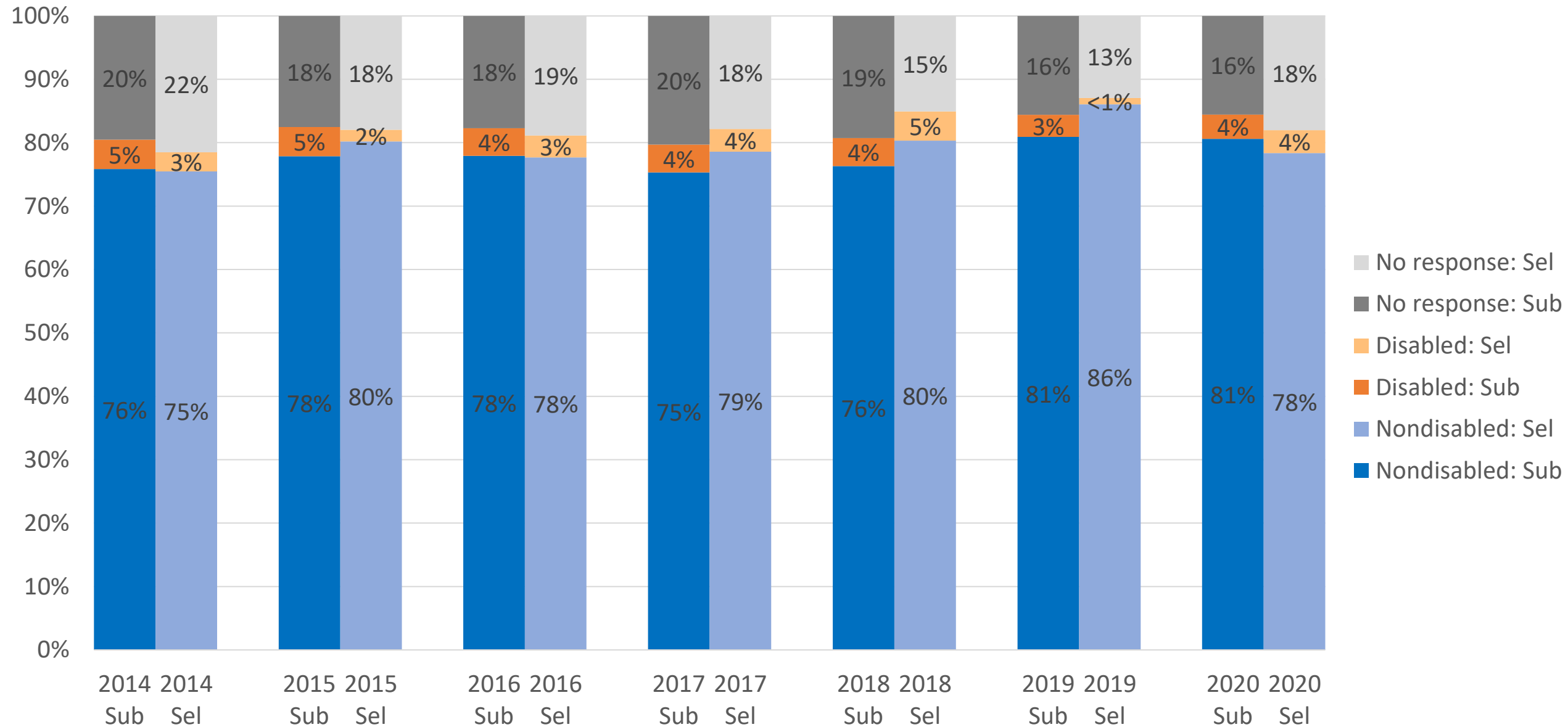
# Ability



2014 - 2020 PSD R&A: Ability



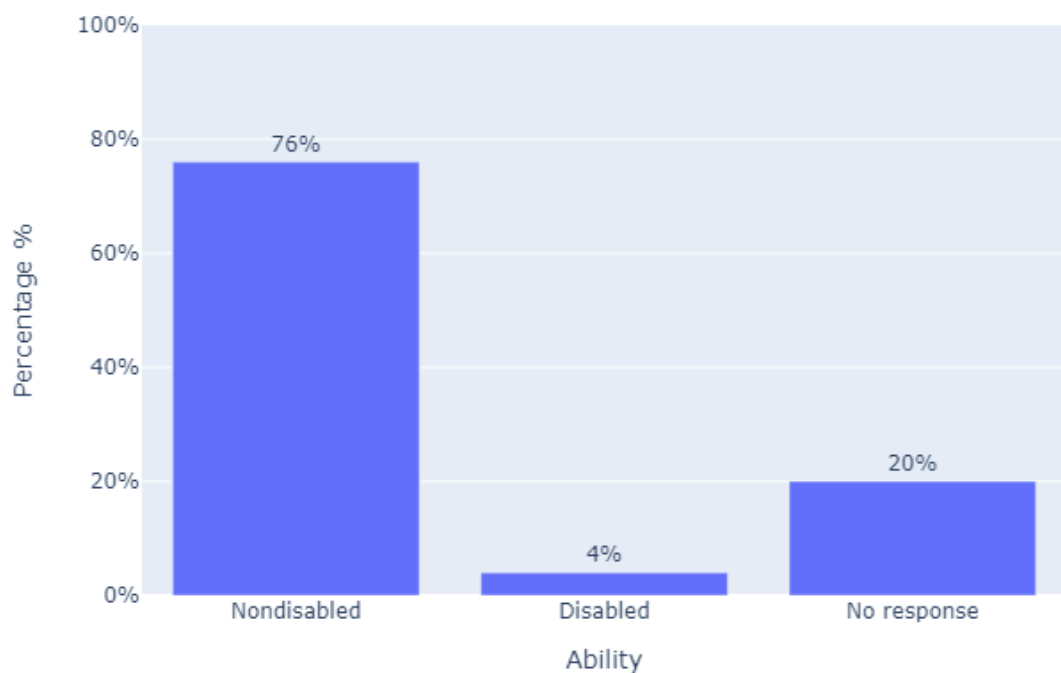
## 2014 - 2020 PSD Core R&A: Ability



# PSD Mission: PI Ability Bulk Comparison

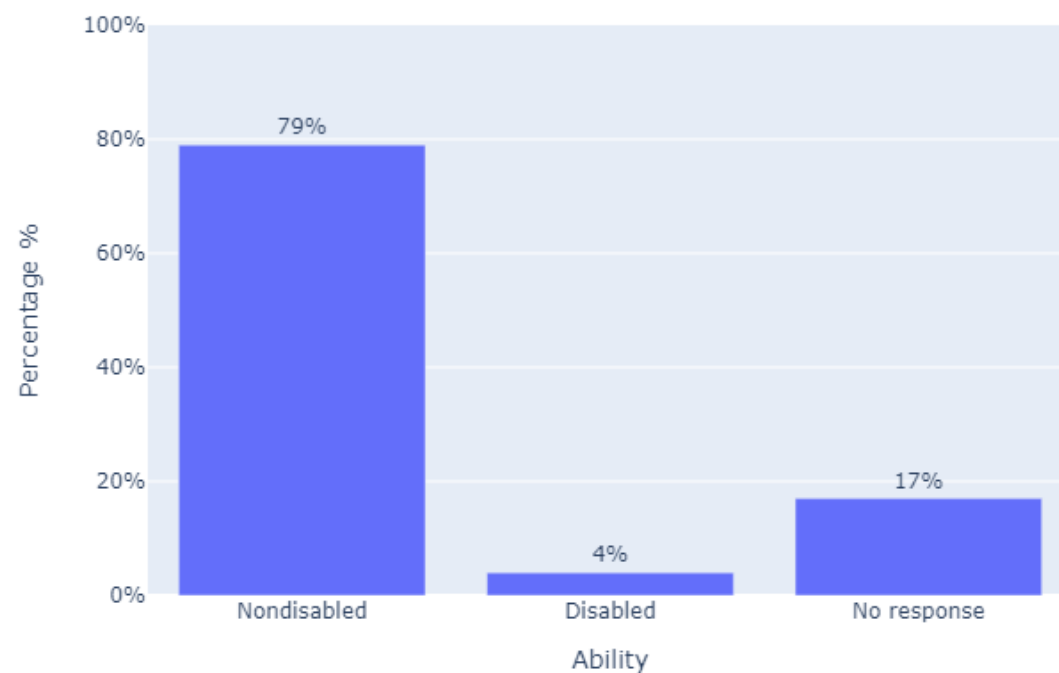
**Ability of Submitted Planetary Mission R&A PIs**

N = 2584 | Missing data = 8 | 2014 - 2020



**Ability of Selected Planetary Mission R&A PIs**

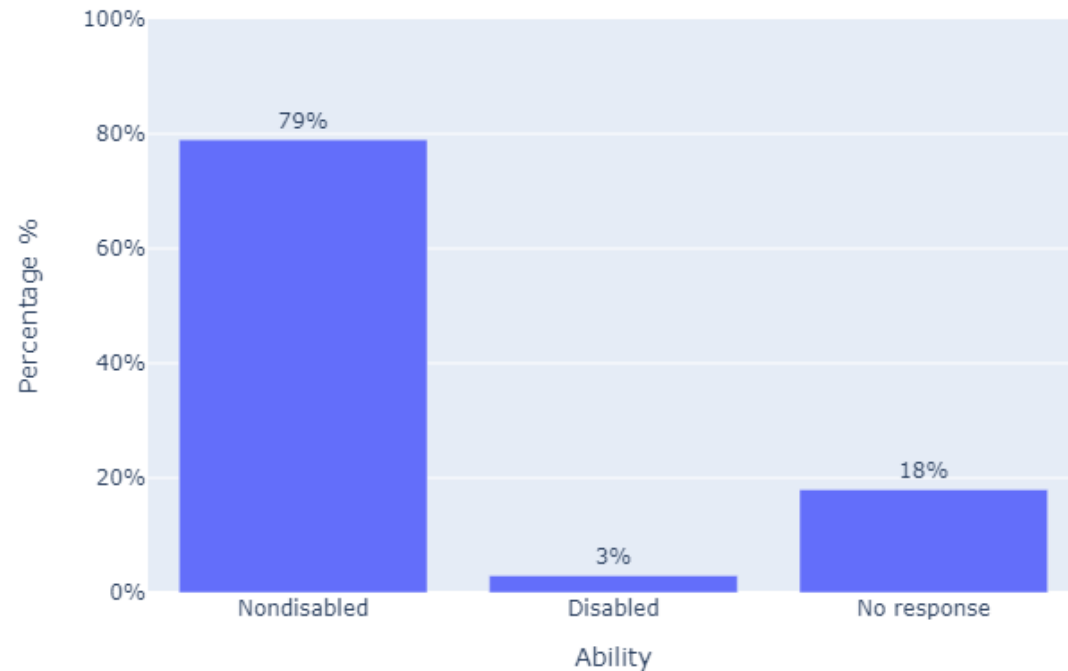
N = 644 | Missing data = 0 | 2014 - 2020



# PSD Tech: PI Ability Bulk Comparison

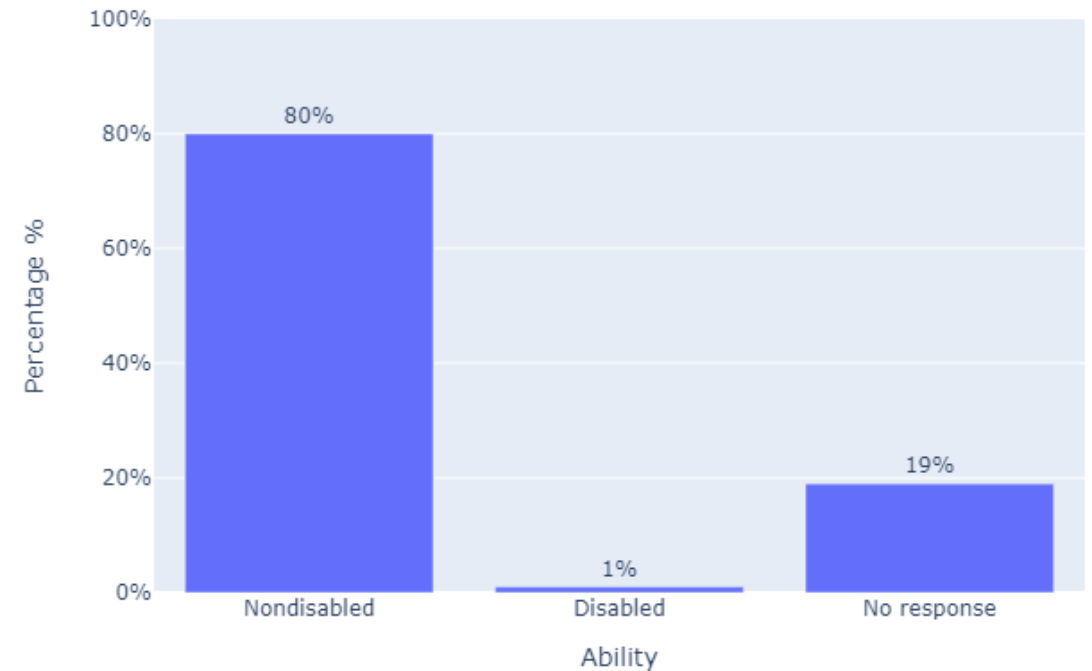
**Ability of Submitted Planetary Technology PIs**

N = 1448 | Missing data = 2 | 2014 - 2020



**Ability of Selected Planetary Technology PIs**

N = 244 | Missing data = 0 | 2014 - 2020








# Conclusions

1. Gains have been made with increasing female representation in both the proposing pool and selected pool of PIs over the course of ROSES14-20, for all of R&A. Breaking down into categories show that those gains have happened mostly in the Mission and Core R&A programs.
2. In general, selection rates are within error of submission rates.
3. Historically underserved populations are still dismayingly underrepresented in the pool of proposing PIs across all of PSD R&A.
4. We have more work to do! Stay tuned.

The background of the slide is a composite of two cosmic images. The top half features a dark space filled with numerous small, bright stars and a prominent, wispy blue nebula on the right side. The bottom half shows a similar starry field but with a large, vibrant orange and yellow nebula on the left, transitioning into a greenish-blue nebula on the right. A horizontal light blue band runs across the middle of the slide, containing the text.

# Backup Slides

# Programs

Core R&A
Apollo Next Generation Sample Analysis Program
Planetary Protection Research
Laboratory Analysis of Returned Samples
Emerging Worlds
Yearly Opportunities for Research in Planetary Defense
Solar System Workings
Planetary Data Archiving, Restoration, and Tools
Solar System Observations
Exoplanets Research
Laboratory Analysis of Returned Samples
Lunar Data Analysis
Interdisciplinary Consortia for Astrobiology Research
Joint NASA-NSF Ideas Lab on the Origins of Life
Planetary Science and Technology Through Analog Research
Exobiology
Habitable Worlds

Technology R&A
Applied Information Systems Research
Astrodynamics in Support of Icy Worlds Missions
Planetary Instrument Concepts for the Advancement of Solar System Observations
Maturation of Instruments for Solar System Exploration
Development and Advancement of Lunar Instrumentation Program
Hot Operating Temperature Technology
Concepts for Ocean worlds Life Detection Technology
Dynamic Power Convertors for Radioisotope Power Systems
Small, Innovative Missions for Planetary Exploration
Payloads and Research Investigations on the Surface of the Moon
Instrument Concepts for Europa Exploration 2
Lunar Surface Instrument and Technology Payloads
Planetary Science Deep Space SmallSat Studies
Scientific Exploration Subsurface Access Mechanism for Europa (SESAME) Technology Development Program

Mission R&A
Akatsuki Participating Scientist Program
Cassini Data Analysis Program
Discovery Data Analysis
Double Asteroid Redirection Test (DART) Participating Scientist Program
Juno Participating Scientist Program
EnVision VenSAR Science Team
Volatiles Investigating Polar Exploration Rover Co-Investigator Program
Mars Science Laboratory Participating Scientist Program
New Frontiers Data Analysis Program
Lunar Data Analysis
Mars Data Analysis
Cassini Data Analysis and Participating Scientists
Dawn at Ceres Guest Investigator Program
Gravity/Radio Science Science Team for the Europa Clipper Mission
Hayabusa2 Participating Scientist
InSight Participating Scientist Program
Korea Pathfinder Lunar Orbiter Participating Scientist Program
Mars 2020 Participating Scientist Program
Mars 2020 Returned Sample Science Participating Scientist Program
Mars Science Laboratory Participating Scientist Program
New Frontiers Homesteader
OSIRIS REx Participating Scientists Program
Rosetta Data Analysis Program